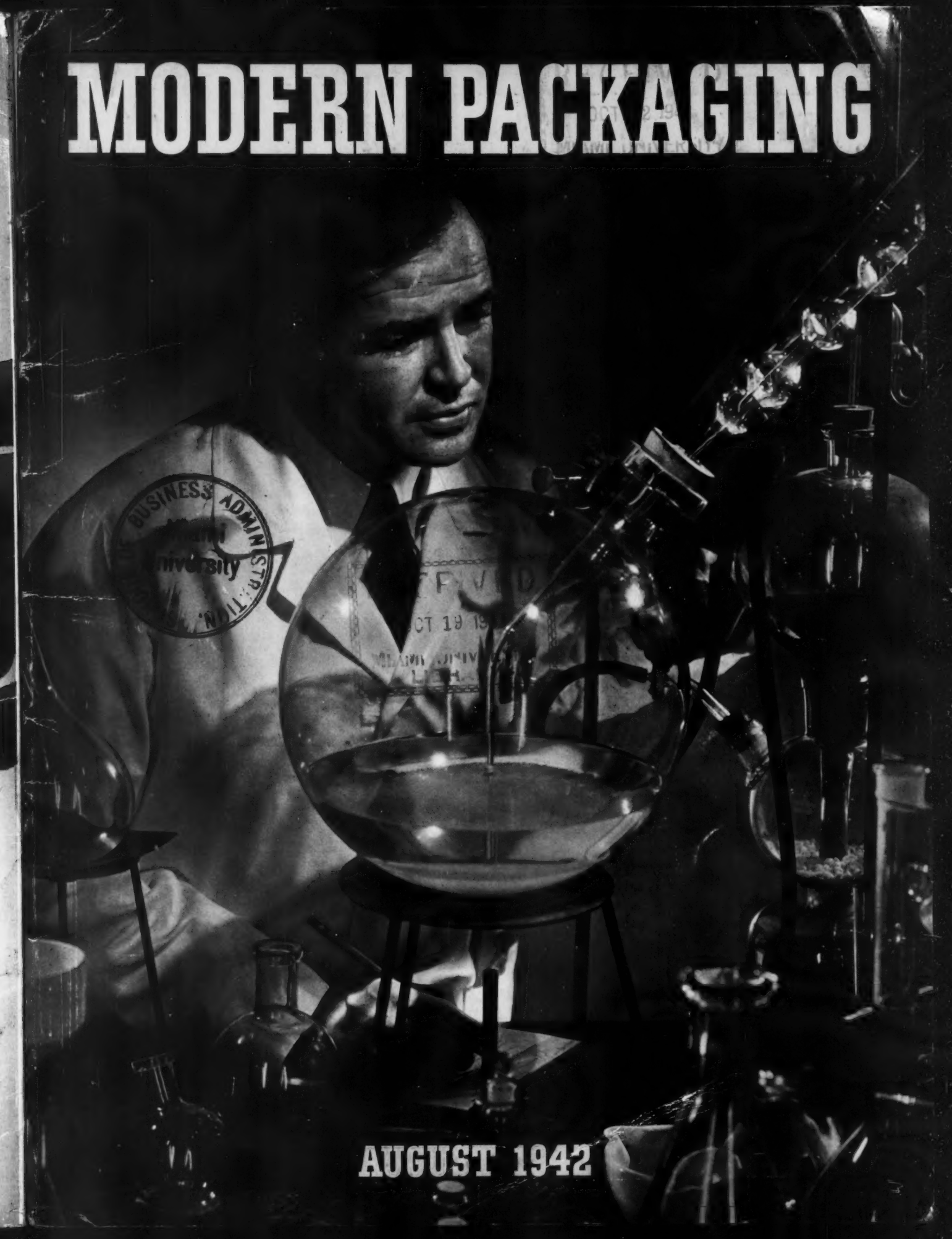
MODERN PACKAGING



AUGUST 1942

THE WAR...THE METAL SITUATION...AND YOU

FOR DEMOLITION, our armed forces use TNT, neatly packaged in small containers. These TNT containers are typical of the hundreds of war items which tax the facilities of the can-making industry.

TO FIGHT, millions of men must eat. It is the job of the can-making industry to supply the tin containers for their food. This job, naturally, gets primary consideration.

FEEDING the industrial front has always taxed the facilities of the can-making industry. But today—despite the enormous wartime demands mentioned above—we're turning out more containers for essential foods than ever before.

KIDS, the future of America, must be fed. Families must be fed. Making the containers for essential foods for the civilian population is still another drain on the can-making industry. But we're able to do our part because *you* are doing yours.

MANY OF YOU may not be getting the containers for your products that you did in peacetime.

The pictures explain this.

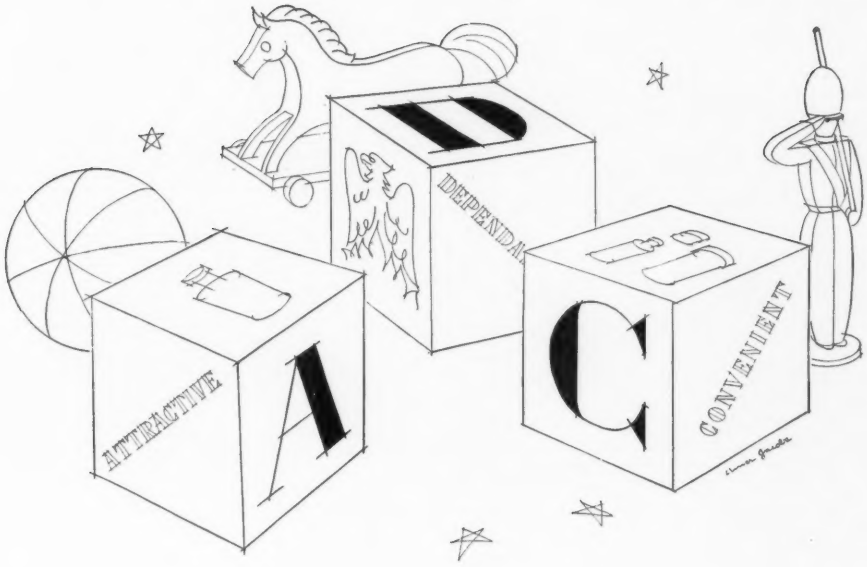
BUT—you, who are using substitute packages, are serving the cause of victory, too. For you are meeting the new situation with skill. You are doing a splendid job of adapting substitute containers and selling the need for them to your trade.

We pledge to give you the best "war containers" we can devise. And even better containers after the war. *American Can Company, 230 Park Avenue, New York, N. Y.*

FOR TOTAL VICTORY...

Here are some typical war items can-makers are now manufacturing for the armed forces of the United Nations:

Containers for food rations . . . explosives . . . oil . . . bandages . . . blood-plasma transfusion kits . . . emergency water rations . . . anti-aircraft motors . . . and many more war essentials.



THE ADCs OF PACKAGING are attractiveness, dependability and convenience. No need to surround these fundamental qualities with strange merchandising terms or mystifying design formulas. They are perfectly able to stand on their own.

But do not under-estimate these fundamental qualities, either. They are as essential today in packaging the products of commerce as they have been in calmer days and times. If anything, they are more essential today than ever.

Attractive, dependable and convenient packages are still required to influence sales . . . to provide identification for products, even though not available in usual volume . . . to retain good will for manufacturers.

You may have to change the shape of your package. You may have to substitute another type of container. You may have to accept a larger container, or a smaller cap. You may have to use fewer and different colors on labels and closures.

But whatever you do, under pressure or otherwise, keep your package attractive, dependable and convenient . . . or as attractive, dependable and convenient as it is possible for you to do under existing conditions. These are fundamental qualities.

The merchant and the consumer are observing persons, to say the least. They look for these fundamental qualities in a package . . . and when they find them, they do not easily forget!

PHOENIX METAL CAP CO.

2444 West Sixteenth Street
CHICAGO

3720 Fourteenth Avenue
BROOKLYN

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Modern Packaging

AUGUST 1942
VOLUME 15 NUMBER 12

COVER—Photo by Victor Keppler, reproduced through the courtesy of The Penn Mutual Life Insurance Co.

SHIPS OR METAL CAPS?

Glass containers are virtually useless without proper closures. Closures require not only tin, plastics, rubber, cork and other critical materials, but steel—enough steel in a year to build 73 ships! If it's a choice between ships and beer bottle caps, tanks or tops for peanut butter jars, planes or pickle bottle closures, it's anybody's guess where the steel should go! The closure situation is acute and so far-reaching that unless suitable substitutes can be found, it may well affect the whole system of American merchandising and distribution for the duration. We promised a comprehensive report on this problem in this issue. So many significant developments are taking place, however, that we've decided to hold over until September in order to present to you the more inclusive picture.

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* Now serving with U. S. Armed Forces.

ONE WAY WE ALL CAN HELP

★ LIKE OTHER PRODUCTS, many defense items must be packaged for protection and transportation. With Ritchie, as with other leading package manufacturers, production for these defense needs must come first. We know you want it that way too—even though it might possibly mean sacrifice on your part as well.

We all can help by conserving paper. Don't use it unnecessarily. Save and sell your waste paper. It's one simple but effective way you can aid defense—and help to insure a more nearly normal supply of the packages and other paper products you yourself need.

LOOKING AHEAD

Through enlarged production facilities now partially devoted to defense production, Ritchie is laying the groundwork for improved packaging techniques and economies in the years ahead. At the same time, we are making every effort to supply our customers with the packages they require.

W. C. Ritchie AND COMPANY

8846 BALTIMORE AVENUE • CHICAGO

SET-UP PAPER BOXES
FIBRE CANS
TRANSPARENT PACKAGES

NEW YORK DETROIT LOS ANGELES ST. LOUIS MINNEAPOLIS DENVER MIAMI

"My face is my fortune, Sir," she said

Helena Rubenstein's Aquacade, a liquid stocking preparation, is a brilliant example of the possibilities of distinction in a Carr-Lowrey stock package.

WE WISH to enter a demurrer, or whatever it is that lawyers enter, in the case of Appearance vs. Function. First off, we think there is no case. If you can't have both good looks and practicability, you haven't got a good package.

Secondly, from our view function is basic to appearance. Modern packages have to go through machinery before they ever get to be seen by the consumer. Most of them are cleaned, filled, capped, labelled, cartoned and cased by some form of machinery, automatic or semi-automatic. There are many little points of design that can be adapted to machine production without sacrificing beauty.

Our designers know most of them and will gladly discuss or demonstrate them to you in a stock glass container.

CARR-LOWREY 3-Point Service

creates

PRACTICAL · ATTRACTIVE · ECONOMICAL

glass packages for cosmetics, drugs, foods, household products.

Carr-Lowrey Glass Co.

Factory and Main Office: BALTIMORE, MD.

New York Office: 500 Fifth Ave. • Chicago Office: 1502 Merchandise Mart

SUN TUBE CARRIES ON . . .

One part of our job—and a mighty important part—is the work we are doing for Uncle Sam. We've been assigned war contracts that call for skilled production, fast production—production that will help bring victory to our country.

But while some of our facilities are devoted to war work, we are still able to make and deliver Sun Tubes for dozens of everyday products—powders, liquids, jelly, tablets and pastes. We are still ready and willing to render the kind of packaging service that has made Sun Tubes the choice of America's best-known products.

If we can help solve your packaging problem—call on us. For Sun Tubes are convenient, economical, dependable. Promises of delivery are made to be kept. Write, phone or wire to Sun Tube Corporation, Hillside, New Jersey.

SUN TUBE CORPORATION

Hillside, New Jersey

CHICAGO, ILL.	CINCINNATI, OHIO	ST. LOUIS, MO.	ST. PAUL, MINN.	LOS ANGELES, CALIF.
James L. Coffield, Jr.	G. M. Lawrence	M. P. Yates	Alexander Seymour	R. G. F. Byington
360 No. Michigan Avenue	2428 Spring Grove Ave.	315 Chestnut St. (Room 125)	903 Pioneer Bldg.	1260 North Western Ave.

Styled

TO STOP SHOPPERS

SMART stock designs and a wide range of sizes make Maryland Flint bottles and jars suitable for such widely varied products as perfumes and pharmaceuticals, shoe polishes and shampoos. Tell us the nature of your product and sizes packed and we will send appropriate samples.

Maryland FLINT BOTTLES AND JARS

SORRY! *War has stopped production of rich, deep Maryland Blue. But, in post-war competition you'll need more than ever the ability of Maryland Blue to "stop the eye and start the sale." Put a note in your post-war plans file: "Look into the merchandising advantages of Maryland Blue Bottles and Jars."*

MARYLAND GLASS CORPORATION, BALTIMORE, MD. . . New York: 270 Broadway . . Chicago: Berman Bros., 1501 S. Laflin St. . . St. Louis: H. A. Baumstark, 4030 Chouteau Ave. . . Memphis: S. Walter Scott, 435 S. Front St. . . Kansas City, Mo.: Aller Todd, 1224 Union Ave. . . Cincinnati: J. E. McLaughlin, 401 Lock St. . . San Francisco: Owens-Illinois Pacific Coast Co.

SEPTEMBER FOOD NEWS IN THE Duraglas ADVERTISEMENT APPEARING IN BETTER HOMES AND GARDENS

WHAT'S IN IT FOR THE FOOD MERCHANDISER?

THIS... In number of foods now packed... in retail sales increases now being made... foods packed in Duraglas are the biggest demonstration ever staged of the power of glass containers to move food products.

There is this to remember, too, about this definitely established food-packing trend. By stepping in early, you secure a position in the *front-sales-line.* And you can bank on the Duraglas container, basically a *good* food *sales-package,* as an ever-increasing factor in food selling from now on! An O-I representative can bring you the facts and figures.

OWENS-ILLINOIS GLASS COMPANY, Toledo, Ohio. Developers of Duraglas

THOSE BOYS IN WASHINGTON

are being blamed for a lot and thanked for nothing. But do you know that your packaging problems and worries are theirs also . . . YOU DOUBT IT? . . . well, here's the PROOF . . .

Examine carefully the perfect metallic finish of our material.

It can replace your aluminum foil or composition foil or tin foil wrapper and carton no longer available

It looks the same
It is available in various weights, finishes and colors
It is non toxic
It can be made waterproof
It can be made heat sealing
It can be made grease resisting

You still doubt it? . . . well, write to us for samples and information. We will be glad to tell you all about it and solve your packaging problems.

KELLER-DORIAN CORPORATION 516 W. 34th St., N.Y.C.

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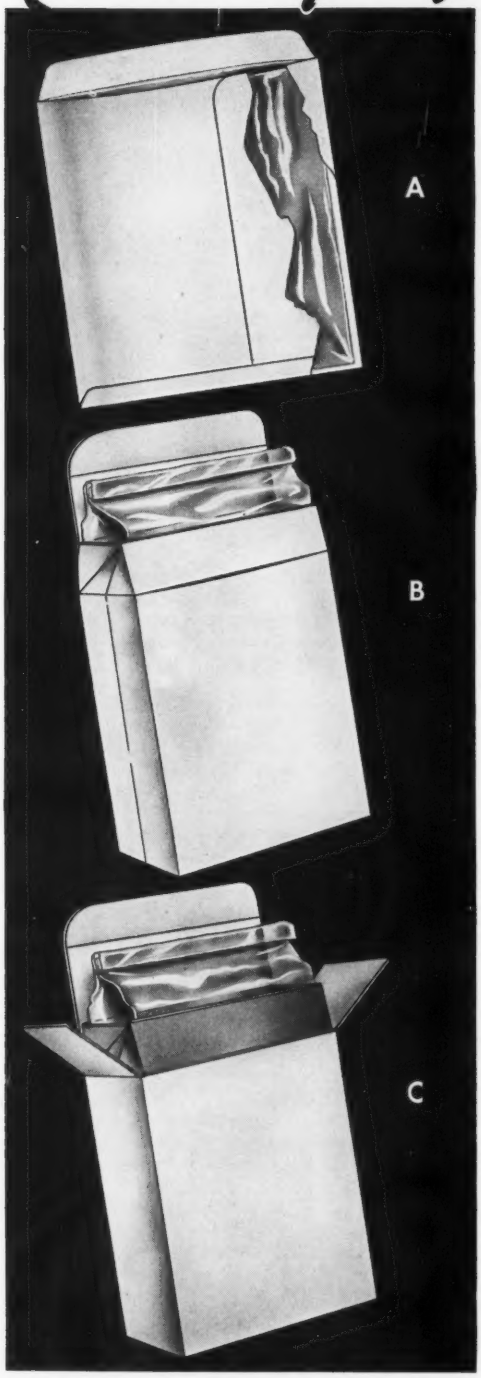
How Are You Handling Your Packaging Change-over?



Here Are Three Practical Developments for Packaging Your Dehydrated and Frozen Foods

As one of the World's Largest Makers of Packaging, we are solving today the new packaging problems of scores of companies. Three basic types of packaging for dehydrated and frozen foods, sketched at the left, can be varied in size and specifications to fit your own particular requirements. Note the main features—

Easy to Open, Easy to Fill, Easy to Close! Semi-floating Construction Eliminates Breakage!

A. **Two-Dimensional Packet**—A "semi-floating" pre-fabricated, duplex, heat-sealing Inner Bag, with heavy-duty casein-coated, sulphite-base Outer Bag.

B. **One-Piece Collapsible Carton**—Tuck, lock or glue end, with duplex, self-opening, "semi-floating," superseal Inner Bag built for heat-sealing.

C. **Two-Piece Collapsible Carton Set**—Outer shell equipped with tuck, lock or glue end. Inner sleeve equipped with duplex, self-opening, "semi-floating," superseal Inner Bag built for heat-sealing.

In Full Color to Speed Your Sales!

The beauty of our Full Color Lithography gives these new packages tremendous eye and sales appeal at the most reasonable cost. Our large selection of fruit and vegetable illustrations in Full Color is available at no extra charge. Our exclusive Full Color "Gang-Runs" save you still more. Write for detailed information and let our packaging engineers help solve your new packaging problems.

FREE — *28-page book "The Value and Patriotic Use of Full Color." Tells how to meet today's selling problems, how to use Full Color; describes our facilities for giving you the finest materials and service. Write for your copy.*

STECHER-TRAUNG
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INSIDE NEWS

AUGUST PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1942

Westinghouse Develops Electronic Tin Separator

With Malaya and the Dutch East Indies in the hands of the Nipponese, the United States must look to domestic tin deposits to yield at least part of the strategic metal formerly imported from the Far East. Long considered economically unprofitable for wide-scale exploitation, America's low-grade tin deposits have hitherto produced only a little more than 1,000 tons annually. This is a mere dribble compared to the 40,000 tons of tin normally received from far eastern sources. That the unpromising outlook of American tin production may have improved recently is due in no small measure to the ingenuity of Westinghouse engineers.

An electronic ore separator, designed to refine a variety of low-grade ores, has been developed in the Pittsburgh laboratories of Westinghouse Electric & Mfg. Company. If the new device is as efficient in actual mining operations as in laboratory experiments, it may prove to be a valuable aid in easing the nation's tin shortage. In laboratory tests, the machine has successfully refined ores of tin, iron and gold. Westinghouse engineers, however, are careful to point out that its application to commercial operations is still in the experimental stage.

At a recent demonstration, conducted before a group of metallurgical experts, including university professors and representatives of the U. S. Bureau of Mines, the Westinghouse electrical ore separator passed its first public test with flying colors. Ten pounds of ore, containing only 1½% tin, dried and ground to the fineness of beach sand, were placed on a foot-wide metal drum. Turning at a speed of 12 miles an hour, the drum sorted the 10,000,000 particles in the ore within a period of one minute into two separate piles. One pile was made up of ore containing approximately 70% tin, suitable for smelting. The other pile contained rock and sand and an insignificant quantity of tin.

The Westinghouse ore separator operates on the principle of an "electrical spray" which "washes" the metal out of the ore. As the particles of sand, rock and tin travel around on the rotating drum, they receive high voltage electrical charges from a series of fine wires located a short distance from the drum's surface. Since the tin particles are good conductors of electricity, the electrical charges pass through them into the metal drum. The tin particles thus lose their charges and fall off the drum before it has made more than half a revolution. On the other hand, the rock and sand particles are poorer conductors of electricity than the components of tin. Retaining their electrical charges, the particles of rock and sand cling to the drum until they are pulled off—during the second half revolution—by a series of oppositely charged wires.

Although it is necessary to dry the ore before it can be separated by an electrical spray, the Westinghouse device may prove to be more efficient than present methods of concentrating ore which do not require drying. In addition to refining low-grade ores, the machine may be used to purify foods. And in the not-too-distant future it may even be used to separate foreign materials from grains and stems from raisins. According to a spokesman for the Westinghouse Research Laboratories, the good conductors among foods are the ones which contain the most water. Conversely, the poor conductors are foods which contain appreciable amounts of oil and little water. (180)

When introduced into the trough of the Westinghouse electronic ore separator, low-grade tin ore is concentrated from 1½% metal to 70% metal suitable for smelting. Using ten pounds of ore, the operation takes approximately one minute to effect the separation of pure tin from rock and sand.

Colima, Center of Mexico's Lime Oil Production

Despite its size, tiny Colima, located about two-thirds of the way down the west coast and almost parallel to Mexico City, is Mexico's chief lime-producing State. Mexico itself leads the Western Hemisphere in this respect, probably ranking second only to Egypt in world-wide production. Having an area of only 12,009 square miles and a population of 61,923, Colima ranks first with 20 per cent of the lime-producing trees, neighboring Michoacan second with 16 per cent, and Veracruz third with 15 per cent.

The growing of limes is Colima's number one industry, outranking production of sugar, coquito nuts, coconuts, rice and other foods.

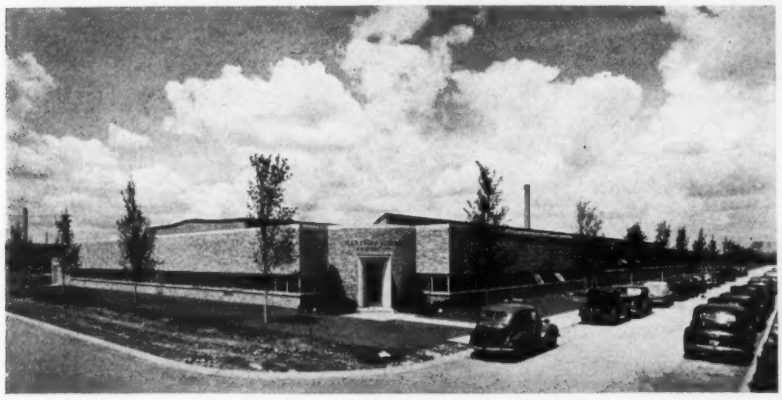
Although the production of lime oil is a fairly recent development, this aspect of the industry is mounting steadily in importance. Practically all the lime-oil plants of Mexico are located in Colima. The first plant was built in 1935, and some 2,800 pounds of distilled oil were produced that year from 400 tons of limes. In 1941, over 48,000 pounds of lime oil were distilled from more than 5,000 tons of limes delivered to the seven mills now in operation. Three new mills are being built this year, and it is estimated that 1942 production of lime oil will exceed 50,000 pounds. (181)

Canned Cheese May Prove Commercially Profitable

Canned cheese soon may be a practical commercial enterprise if proposed experiments in New York State produce satisfactory results. Procedures for canning natural cheese have been worked out at the Dairy Division of the New York State Agricultural Experiment Station at Geneva. Funds were allotted recently to make trials of these procedures under commercial conditions to determine their practical applications. Results of the tests will be made known when sufficient data is obtained. (182)

BY
NATIONAL CAN

AUGUST PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1942



National Can's New Chicago Plant Swings Into Operation

Construction of National Can Corporation's new Chicago Plant has recently been completed. Latest link in National Can's expanding chain of modern manufacturing plants, the new unit has been supplying canners with sanitary cans for more than 60 days.

The plant is located in Chicago's "clearing district" at 6000 West 51st Street. It is removed from local traffic centers, but is strategically accessible to all the main highways and railroads which serve the nation's great food-growing region. A valuable new source of tin containers, National Can's Chicago plant is completely equipped with modern can-making machinery and skilfully-trained personnel. (183)

Plenty of Coffee For Our Armed Forces

Men in the Armed Forces of the United States will have plenty of coffee to drink this year. Figures released by the Jersey City Quartermaster Depot, which now purchases all the coffee for the Army, Navy and Marine Corps, reveal that 209,968,564 pounds of green coffee was bought from January 1 to May 23. This amount is equivalent to 3,200 carloads. The cost was about $30,000,000. (184)

Wheat Germ Oil Prevents Milk Rancidity

The rapid spoilage tendency of dried whole milk under wartime shipping conditions, especially in the huge quantities required by Britain under the Lease-Lend plan, has been a matter of grave concern to British and American officials. It is, accordingly, of considerable interest that two Canadian investigators have devised an effective and practical means of improving whole milk powder stability over periods from two months to a year.

The method consists in homogenizing an extracted wheat-germ oil in skim milk and adding the resulting emulsion to the fresh whole milk during the fat adjustment prior to spraying. Although performed on spray-dried milk, it is understood that similar results have been obtained on roller-dried milk. Carefully controlled stability tests also have revealed that the keeping quality of lard may be doubled by the incorporation of extracted wheat-germ oil by a special process. (185)

Rare Chemicals Registry Planned

A national registry of rare chemicals is being established in Chicago as a service to American science and industry. The new registry will index the chemicals too rare to be found in the commercial catalogs, indicating their name, location, and amount available. (186)

. . .

An average chair contains enough hardwood to make the stock of a Garand rifle.

For every ten 30-foot cruisers that aren't being built this year our Navy can have another mosquito boat.

Technical Topics

SALT administration to industrial workers, believed at first to be of value only in alleviating heat collapse, has also been found to actually increase the efficiency of workers suffering from fatigue due to the heat. According to recommendations of the United States Public Health Service as to the amount of salt needed under various conditions: Light work should be treated with 3 ten-grain tablets a day; medium work with 6 to 10 ten-grain tablets a day; and heavy work, 10 to 18 ten-grain tablets a day. (187)

CIGARETTES—Americans trail Latin Americans in cigarette consumption. South of the U. S. A., 350,000,000 cigarettes are smoked per day, or 1,600 a year per person. Our consumption averages 1,400 per year per person. (188)

METHYL SILICAN compounds are suggested as synthetic resins in England. Made by the hydrolization of methyl silicon halides, the new condensation products are said to be insoluble in water, alcohol, and glycerin, and to be clear, colorless and nonsticky when solid. Similar products formed in a solvent, such as ether, are said to be suitable for coating compositions for wire, asbestos, and mica products. (189)

INSECTICIDES—Two tons of nicotine, extracted from tobacco, are needed each year by the insecticide industry. (190)

PETROLEUM RESISTANT FILMS are obtained by gradually stirring a sulphyrous acid into a concentrated alcoholic-ammoniacal lac solution, it is stated in a recent British article. The films obtained with the mixture are clear, glossy, and flexible, if plasticized, it is added. They can be made water resistant by heating or by the addition of or exposure to formaldehyde. (191)

KAPOK is an American native plant introduced into the Netherlands East Indies, which supplied America with the commercial product. Now production is again developing in South America, particularly in Ecuador. (192)

A GUM RESIN, made from tomato skins, is being used abroad to take the place of linseed oil in the manufacture of linoleum. (193)

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquirers to the original source of the article. Write to National Can Corp., 110 E. 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

(Advertisement)

SIX THINGS

IMAGINEERING

★ SO MUCH SO SOON ★

A MAN CAN DO

1 ***MAKE OUR OWN JOB MORE PRODUCTIVE.*** Every man jack of us can. And that's not preaching, either. It's the point of view we've adopted for the duration at Alcoa. The records we've broken so far, we tell ourselves, aren't nearly good enough. Nor shall we be satisfied with the new ones we set tomorrow.

MAKE OUR MACHINES MORE PRODUCTIVE. There is a way. We don't know the answer for your equipment. But we have found the answers for many of our own machines which we thought were already up to top output. The resulting step-up is getting planes into the air faster. And it is doing things to aluminum prices. Designers please note.

III ***PRACTICE PREVENTIVE MAINTENANCE.*** Keeping present equipment in top condition is easier than getting new. One of the ways our engineers are helping production everywhere is in counseling users of aluminum equipment on means of preventing unnecessary corrosion. The remedy is usually simple; the results priceless. Ask us.

FOUR ***BUY WAR BONDS AND STAMPS.*** It's patriotism with self-interest. You finance the war and you help to defeat inflation by refusing to spend for nonessentials. Moreover, you finance yourself to take advantage of all the revolutionary new products that are going to be ready to buy when the war is over. Buy today to keep your own wheels turning tomorrow.

FIVE ***DREAM A DREAM EVERY DAY.*** Remember that the kind of peace we all want depends on how many jobs we think up for the boys coming back. New jobs come out of new things to make. Let your imagination soar; engineer it down to earth; then file the plans away, ready for the day when. That's Imagineering! Selfish suggestion: think seriously in terms of Alcoa Aluminum.

Sixth and last ***KEEP THE OLD CHIN UP.*** Whatever the news, whatever the temptation, keep the chin up. The boys out there deserve it. Whether it's rationing, or restrictions, or whatever, let them watch us being soldiers about that.

Aluminum Company of America, 2129 Gulf Bldg., Pittsburgh, Pa.

ALCOA ALUMINUM

A Sound Solution to Metal Replacement Problems:

THE CELLOPHANE BAG-IN-BOX PACKAGE

YOU MAY FIND the solution to your packaging problem in the new non-metal Cellophane bag-in-box container. It is already being used successfully in several branches of the food industry.

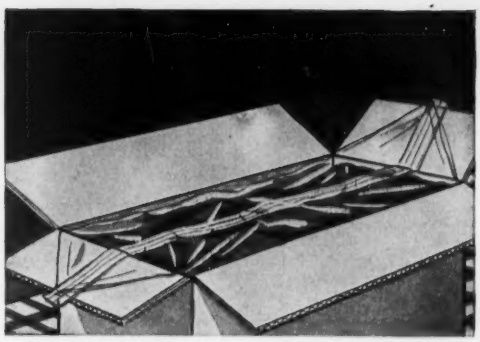
A sturdy carton and a leakproof Du Pont Cellophane bag provide a combination with outstanding structural strength and moisture protection. Each can be quickly obtained from practically all recognized sources in the carton and bag industries.

This new unit is easily assembled, filled and closed. Not only does it cost less than metal containers, but effects savings in shipping weight and space which in turn save freight costs.

If you have a metal replacement problem, write us for bag-in-box samples. E. I. du Pont de Nemours & Co. (Inc.), Cellophane Division, Wilmington, Delaware.

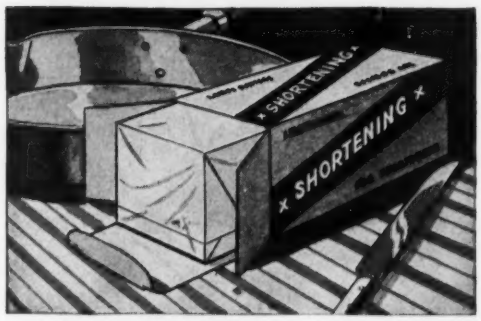
DU PONT
REG. U. S. PAT. OFF.

CELLOPHANE HELPS SAVE METAL!

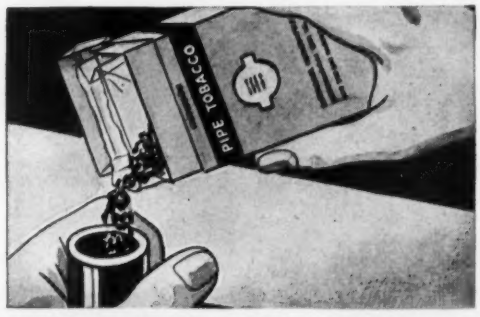


FROZEN EGGS (30 lbs.) . . . A simple bag-in-box combination replaces the large metal cans formerly used. This bulk unit is adaptable for many other foods.

DEHYDRATED FOODS . . . Moisture protection is essential to hygroscopic foods. A bag made of Cellophane laminated to itself or other materials and inserted in a carton provides ample protection for many dehydrated or dried products.



SHORTENING BY THE POUND . . . The greaseproof Cellophane bag in this bag-in-box package holds products of this type satisfactorily. Adaptable for many greasy products.



SMOKING TOBACCO (*Pocket Size*) . . . Cellophane has long provided vital protection for cigarettes and cigars. Now, the new bag-in-box units are replacing tins for smoking tobacco.

NOW!...COATED AVAILABLE

★ **Revolutionary new**

★ **Read how you may**

quality board, and cut

You know what happened in our war production plants when American ingenuity stripped off its coat, rolled up its sleeves and went to work. That happened in the paper boxboard industry over a full year ago, when Gardner-Richardson announced probably the most revolutionary boxboard development in 50 years.

IT WAS BIG NEWS THEN . . . IT'S BIGGER NEWS TODAY

You remember it. Gardner-Richardson made available for the first time, *Coated* Lithwite, a finer, whiter board . . . actually formed, made, and coated *on one machine . . . in one continuous operation . . . at an incredible speed.* The first board to bring together uncoated board economy and coated board quality. Because of this revolutionary, new method, *Coated* Lithwite was . . . and is . . . priced as low as many uncoated boards . . . actually lower than some.

The GARDNER-RICHARDSON Co.

SALES REPRESENTATIVES IN PRINCIPAL CITIES: PHILADELPHIA • CLEVELAND

LITHWITE SAVINGS

to additional users of folding cartons

coated board actually costs less than some uncoated boards

improve the appearance of your cartons with this

packaging costs—at the same time

And today, with more and more carton users going over costs with a sharp pencil, an increasing number of them are finding the answer in *Coated* Lithwite. For *Coated* Lithwite not only means real savings . . . it means finer, whiter board . . . a smoother, more velvety surface that makes inks lay more smoothly, come up brighter . . . makes half-tones, zincs, type print crisper, cleaner, sharper. *Coated* Lithwite scores without cracking, seals more positively, too.

MAKE A SIDE-BY-SIDE TEST ON YOUR DESK

Investigate *Coated* Lithwite. Write for sample sheets of this sensational coated board and sample cartons taken right off our presses. Or send us your original carton engravings, let us prove them on *Coated* Lithwite so you can make a side-by-side comparison with the cartons you are now using. Then let us make you an eye-opening quotation.

WHAT'S YOUR PROBLEM?

★ **Finding a substitute for tin, metal or glass?**

★ **Packaging dehydrated or frozen foods?**

★ **Cutting packaging costs or improving display?**

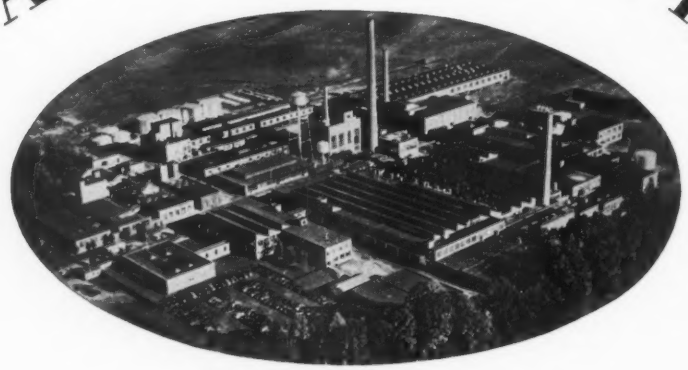
Put it up to the Gardner-Richardson technical staff. We either have the answer or we'll burn our lights at night 'til we get it. Write today, outlining your problem in full. Better still, wire or phone and ask a Gardner-Richardson representative to call and talk it over.

Manufacturers of Folding Cartons and Boxboard • MIDDLETOWN, OHIO

CHICAGO • ST. LOUIS • NEW YORK • BOSTON • PITTSBURGH • DETROIT

GARDNER-RICHARDSON — FROM PULP TO FINISHED PRODUCT — ENGINEERED PRECISION

SYLVANIA* CELLOPHANE



PLANT—FREDERICKSBURG, VA

for Conservation

You can not afford to overlook SYLVANIA cellophane in the development of new "War-Time" packages.

Take advantage of one or more of its superior qualities: Transparency—Moistureproofness—Greaseproofness—Strength—Cleanliness—Economy—Sales Appeal.

SYLVANIA cellophane—by itself, and in combination with other materials—is doing a real job relieving the shortage of other more critical materials.

We have developed types of SYLVANIA cellophane to meet many new demands. We are working harder than ever before to assist the Government and our clients in effecting a proper packaging job and at the same time conserve materials essential to war-time restrictions.

We are at your service. Our Technical Service Division will be glad to help you on new packaging developments to conserve, to economize, yet continue to improve . . . with SYLVANIA cellophane.

SYLVANIA INDUSTRIAL CORPORATION

General Sales Offices: 122 E. 42nd Street, N. Y. Works: Fredericksburg, Va.

Branches or Representatives:
ATLANTA, GA. . 78 Marietta Street
BOSTON, MASS., 201 Devonshire St.
CHICAGO, ILL. . 111 N. Canal Street
DALLAS, TEX., 809 Sante Fe Building
PHILA., PA. . 260 South Broad Street

Pacific Coast:
Blake, Moffitt & Towne
Offices & Warehouses in Principal Cities

Canada:
Victoria Paper & Twine Co., Ltd.
Toronto, Montreal, Halifax

* "SYLVANIA" IS A REGISTERED TRADE MARK FOR CELLULOSE PRODUCTS MANUFACTURED BY SYLVANIA INDUSTRIAL CORPORATION

Why did the best castles have round corners? (PACKAGING RIDDLE)

THERE was one big trouble with castles. The first ones were often square-cornered. They were supposed to protect what was inside. But they didn't. They couldn't.

No matter how many loopholes they had, there were always "blind" corners to block vision. Hostile troops could creep up unseen. Further, the stones at the corner were exposed on two sides. And that made them more vulnerable to battering rams.

Square-cornered castles just weren't safe enough! The package *had* to be improved.

New castles were built with round corners. In these circular walls, the loopholes let you see out at *every* angle. And in addition, the curved surface presented a greater obstacle to battering rams.

History books don't refer to the castle builders as "packaging experts." But they actually were. They improved their package to fit their needs.

Producing the right packages to fill America's needs today is the most important job Continental ever tackled. What these packages are, their size, or appearance is unimportant now. The significant thing is that government, like industry, has found that the tin container is an all-around, safe, economical package.

Looking into the future we see many new packages—ideas which must be held until another day. But, for those who are planning ahead, we offer the services of our packaging engineers, research men and designers. They will be glad to work with you.

CONTINENTAL CAN COMPANY

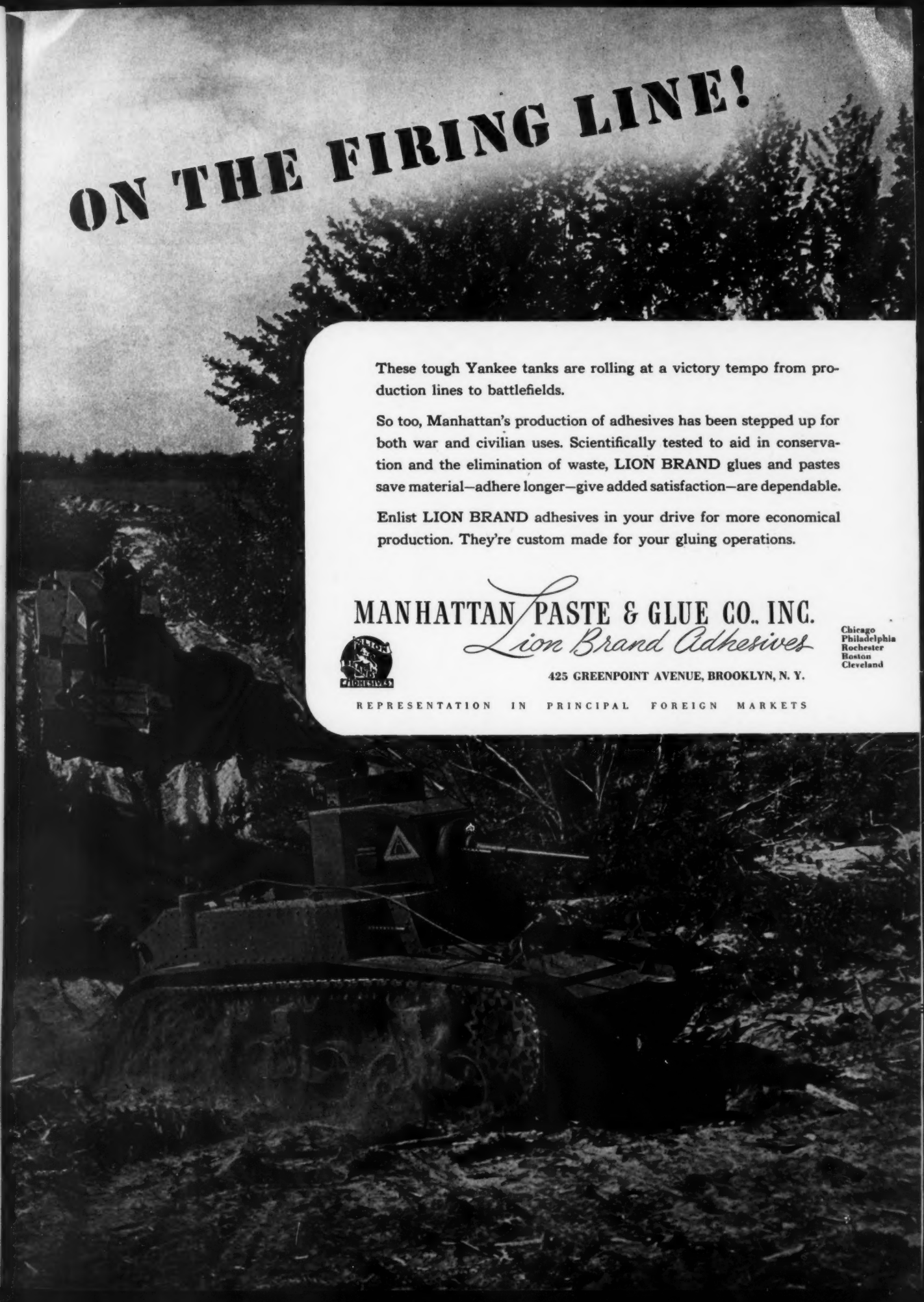
Packaging Headquarters for Industry

What will be the PACKAGE of the FUTURE?

The package of the future will be the package that best meets *all* these 10 important points:

1. Protects against light, heat, and dirt.
2. Does not chip, break, or tear.
3. Is adaptable to *highest* speed filling operations.
4. Is economical to pack, ship, and handle.
5. Light weight, compact, no waste space.
6. Moisture and vapor proof, impervious to temperature changes.
7. Easy and convenient to display, sell.
8. Available in wide variety of sizes, shapes, styles (over 500).
9. Offers maximum convenience and safety in consumer usage.
10. Permits high processing temperatures, certain hermetic sealing.

These points made the metal container *first* in packaging. If there ever is another package that has *all* these qualifications, we'll be making it!



These tough Yankee tanks are rolling at a victory tempo from production lines to battlefields.

So too, Manhattan's production of adhesives has been stepped up for both war and civilian uses. Scientifically tested to aid in conservation and the elimination of waste, **LION BRAND** glues and pastes save material—adhere longer—give added satisfaction—are dependable.

Enlist **LION BRAND** adhesives in your drive for more economical production. They're custom made for your gluing operations.

MANHATTAN PASTE & GLUE CO., INC.

Lion Brand Adhesives

425 GREENPOINT AVENUE, BROOKLYN, N. Y.

Chicago
Philadelphia
Rochester
Boston
Cleveland

REPRESENTATION IN PRINCIPAL FOREIGN MARKETS

ACME *Silverstitchers*
SPEED CARTON STITCHING

USERS REPORT:
"50% SAVINGS IN TIME AND MATERIAL"
"BETTER AND FASTER WORK"
"DOUBLE PRODUCTION OF CARTONS"
"SAVE TIME—CUT COSTS"

And so it is in practically every industry! Acme Silverstitchers are making box stitching easier and faster—helping to keep the packing room in step with production—cutting costs to a minimum.

Delivery requirements of rush war orders are being met... in plants where the new sturdily built, low-cost Acme Silverstitchers are installed. Sealing by stitching is often five times as fast as other sealing methods. And by actual test its holding power is twice as strong on the average. Economical, too! It saves in material, space and labor. Acme Silverstitchers are made in standard and special sizes and types . . . to meet every stitching requirement.

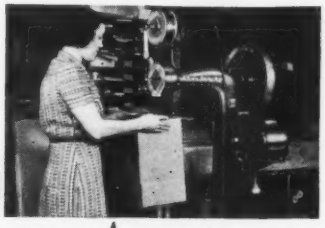
TEAMED WITH ACME SILVERSTITCH FOR BETTER, FASTER STITCHING

Acme Silverstitchers and Acme Silverstitch are engineered to function as a unit. Both wire and equipment are supplied and *guaranteed* by Acme Steel Company. Write today for the facts on faster and better stapling ... lower carton stitching costs. There is no obligation.

LOOK FOR ACME STEEL — ON THE SEAL

PAINT INDUSTRY . . . *Acme Silverstitchers are chosen because wire stitching is faster and makes a stronger package.*

FOOD INDUSTRY . . . *A standard 12-inch Straight Arm Silverstitcher solves problem of assembling small cartons for meat packer.*



CONTAINERS . . . *Production speeded with bottom Silverstitcher—savings in time, money and material.*

A NEW FOLDER . . . *with full information on Acme Silverstitchers. Mail the coupon.*

MEET FEDERAL STRAPPING SPECIFICATIONS WITH ACME STEELSTRAP

Steel strapping to meet all Federal Strapping Specifications . . . equipment to speedily and economically apply the strap to shipping packs . . . together with competent counsel on the strapping operations are available to all shippers with Government contracts.

Acme Steelstrap is furnished in all sizes specified by the authorities. And to reduce strap-applying costs, you'll need Acme Steelstrappers . . . one-piece, magazine seal fed strapping tools which do the job faster and easier.

With this equipment, one shipper effected a saving of 35% in material and labor. Others report equally successful results. Mail the coupon for full details.

ACME STEEL COMPANY
2843 Archer Avenue, Chicago, Illinois
Branches and Sales Offices in Principal Cities

ACME STEEL COMPANY, 2843 Archer Ave., Chicago, Illinois
☐ Send the free folder with all the facts on more economical, faster and easier box stitching.
☐ Send full details on Acme Steelstrap and Strapping equipment.

Name .....
Company .....
Address .....

Close In ON YOUR CLOSURE PROBLEMS WITH Beetle*

This modern molded plastic is indeed "tops for Tops." Glance at the array of sizes and shapes of the Beetle closures shown here. In use today by the millions... safeguarding the contents of packages enclosing everything from ethical drugs to foodstuffs, cosmetics and beverages ... Beetle is proving the economical, large-volume medium for capping dispenser type packages... BETTER!

For details on how *you* can adapt and use Beetle for your immediate needs, write:

*Reg. U. S. Pat. Off.

AMERICAN CYANAMID COMPANY
PLASTICS DIVISION
34 ROCKEFELLER PLAZA • NEW YORK, N. Y.

THE PLASTIC THAT'S ALL COLOR... IN ALL COLORS

Beetle

"We will gain the inevitable triumph so help us God"

FRANKLIN D. ROOSEVELT

WE MUST GO ALL OUT FOR VICTORY
10% IS SO LITTLE
BUY UNITED STATES WAR BONDS AND STAMPS

SEE REVERSE SIDE OF THIS SHEET FOR DEJONGE IMPORTANT CONTRIBUTIONS TO THE WAR EFFORT & CIVILIAN SUPPLY

☐ Send working samples of **COMMANDO PAPERS.**

☐ Send working samples of **SILVERLITE** and **GOLD-LITE PAPERS.**

☐ Send working samples of **MOISTURE VAPOR RESISTANT PAPERS** when ready.

Name.....

Company.....

Address.....

DEJONGE

ESSENTIAL PACKAGING & WRAPPING PAPERS

1—Commando — grease resistant coated papers for packaging and wrapping grease and oil products, and greased or oiled machinery parts. Sample sheets available on light and heavy weight white and Kraft papers; special samples on paper and board to your specifications.

2—Silverlite—Goldlite — brilliant metal coated papers for essential and gift packaging. Made from a by-product of metals which has no salvage value for war work. Sample sheets available plain and embossed.

3—The new Moisture Vapor Resistant and Heat Sealing Product now developed, and ready for production in a few weeks.

Sample sheets of these and other papers created to assist in war effort and civilian supply will be mailed to you as they are produced.

Add your name to Dejonge mailing list today by using the reply card attached to this insert.

LOUIS DEJONGE & COMPANY

161 SIXTH AVENUE, NEW YORK, N. Y.

Chicago Boston Philadelphia

Authorized Representatives: PACIFIC COAST — ZELLERBACH PAPER CO.
SOUTHWEST — POLLOCK PAPER & BOX CO., DALLAS, TEXAS
CANADA — E. H. WILKINSON & CO., LTD., TORONTO

To the man who is worried about wartime packaging restrictions

TODAY, packers of many types of products who had always considered tin as indispensable, are using Sealright containers, without sacrifice of protection or appearance.

Sealright containers are round, sturdy, attractive and easy-to-fill. They are made from sterile-clean paper board specially treated to resist moisture. Hundreds of millions are used annually for factory packed ice cream and other frozen and dry food products. Year after year they consistently represent the standard of quality.

In common with all paper containers, however, they are not air tight nor grease-proof. They cannot be hermetically sealed.

Sealright does not make cartons, folding boxes or square packages of any type. Sealright makes only sterile-clean container board, cylindrical containers (straight-side and nested type), conical bottle type containers, plug caps and closures . . . all made of paper. While container diameters cannot be changed, height of container may be varied to meet new capacity requirements.

Special cellophane bags, liners, lacquers and sealing tapes have been developed to meet specific needs.

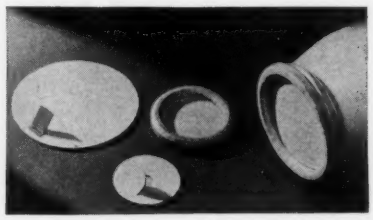
Should you feel that Sealright may help you solve your problems, our experts are available for consultation. The coupon is for your convenience. Sealright Co., Inc., Fulton, N. Y.

Sealright Paker-Bulkans, supplied flat in collapsible form, and now widely used in place of metal cans by the dairy industry, are also suitable as containers for many types of dry and frozen products, and can be furnished in sizes from 20 to 30 pounds.

Sealright paper cups, with disc-inserted lids, popular for years with ice cream manufacturers, and with dairies packing cottage cheese, are available from 2½ to 30 ounces and may be adapted to the packaging of dry foods of many types.

Round containers, both straight-side and nested type with slip-cover lids, are available in capacities of 4 ounces to 10 pounds for the straight-side and from 8 to 32 ounces for the nested type.

The Sealright conical type container comes in 8 ounce, 16 ounce and 32 ounce sizes, may be used with an insert disc top as a shaker container for powdered or granular products as well as various liquids.



Glass bottle and jar closures developed in three types, may be adaptable to the needs of many food packers.

Sealright
SANITARY PAPER
CONTAINERS

PARTIAL LIST OF PRODUCTS NOW BEING PACKED IN SEALRIGHT CONTAINERS • *Baked goods* • *Butter and dairy products* • *Candy Chocolate, gelatine and baking powders* • *Cigars, cigarettes* • *Cracked eggs* • *Dog food* • *Frozen fruits, meats and vegetables* • *Grated cheese* • *Marshmallow topping* • *Meats* • *Pipe tobacco* • *Potato sticks* • *Powdered chemicals*

We use SEALRIGHT SANITARY SERVICE for Your Packaging

SEALRIGHT CO., INC.
Fulton, N. Y.

Gentlemen:

We would appreciate any advice and assistance you can give on the packaging of_____
(product or products)

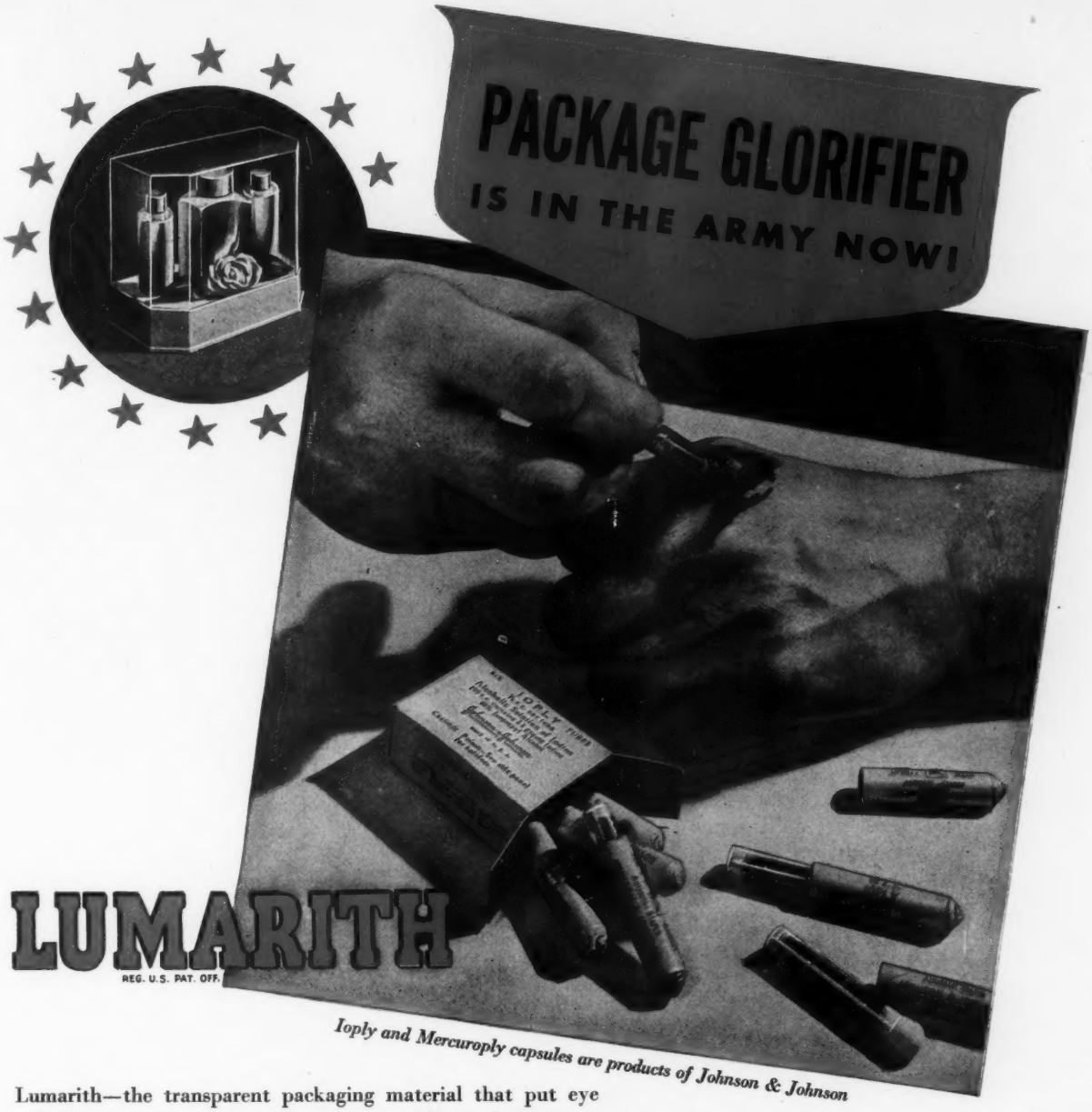
*Firm Name*_____

*Street & Number*_____

*City*_____ *State*_____

*Your Name*_____

MP



Ioply and Mercuroply capsules are products of Johnson & Johnson

Lumarith—the transparent packaging material that put eye and sales appeal into so many consumer products—has gone to the front to help save lives. (Who said the packaging people couldn't put their creative ability into war work?)

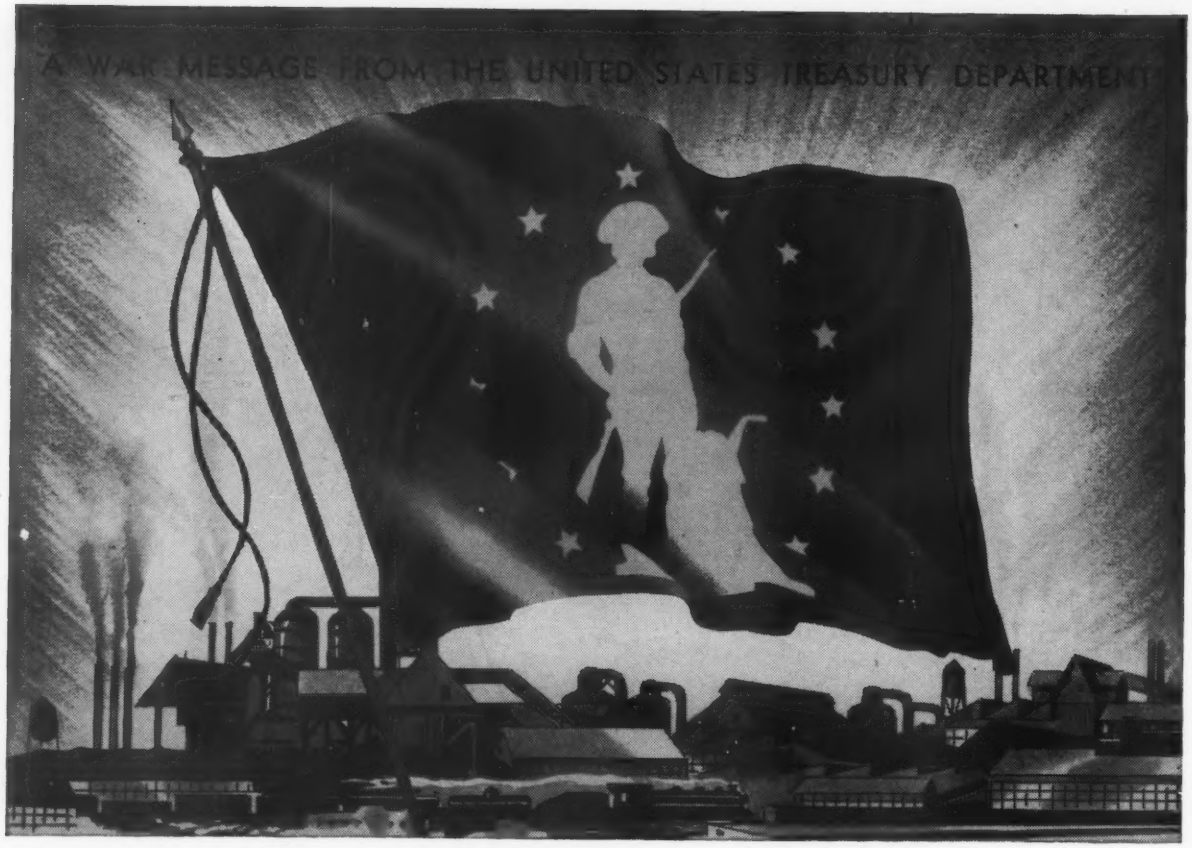
Each service man's equipment includes iodine and mercurochrome capsules. Glass ampules containing the drugs are protected by Lumarith tubes of slightly larger diameter, sealed at the applicator end by compressed absorbent cotton. A squeeze of the flexible Lumarith outer tube breaks the glass inner tube—without danger of finger cuts from glass splinters. This saturates the cotton for application. Result: a sealed glass ampule retaining the drug's potency, which, Presto! becomes an applicator.

Here is an example of keeping up with the times, with Lumarith packaging, that is also helping to win the war. *Who said the packaging people couldn't do it?*

CELANESE CELLULOID CORPORATION, *a Division of Celanese Corporation of America*, 180 Madison Ave., New York, N. Y.

CELANESE CELLULOID CORPORATION

The First Name in Plastics



Next to the Stars and Stripes . . .

AS PROUD A FLAG AS INDUSTRY CAN FLY

Signifying 90 Percent or More Employee Participation in the Pay-Roll Savings Plan

IT doesn't go into the smoke of battle, but wherever you see this flag you know that it spells Victory for our boys on the fighting fronts. To everyone, it means that the firm which flies it has attained 90 percent or more employee participation in the Pay-Roll Savings Plan . . . that their employees are turning a part of their earnings into tanks and planes and guns *regularly,* every pay day, through the systematic purchase of U. S. War Bonds.

You don't need to be engaged in war production activity to fly this flag. Any patriotic firm can qualify and make a vital contribution to Victory by making the Pay-Roll Savings Plan available to its employees, and by securing 90 percent or more employee participation. Then notify your State Defense Savings Staff Administrator that you have reached the goal. He will tell you how you may obtain your flag.

If your firm has already installed the Pay-Roll Savings Plan, now is the time to increase your efforts: (1) To secure wider participation and reach the 90-percent goal; (2) to encourage employees to increase their allotments until 10 percent or more of your gross pay roll is subscribed for Bonds. "Token" allotments will not win this war any more than "token" resistance will keep our enemies from our shores, our homes. If your firm has yet to install the Plan, remember, TIME IS SHORT.

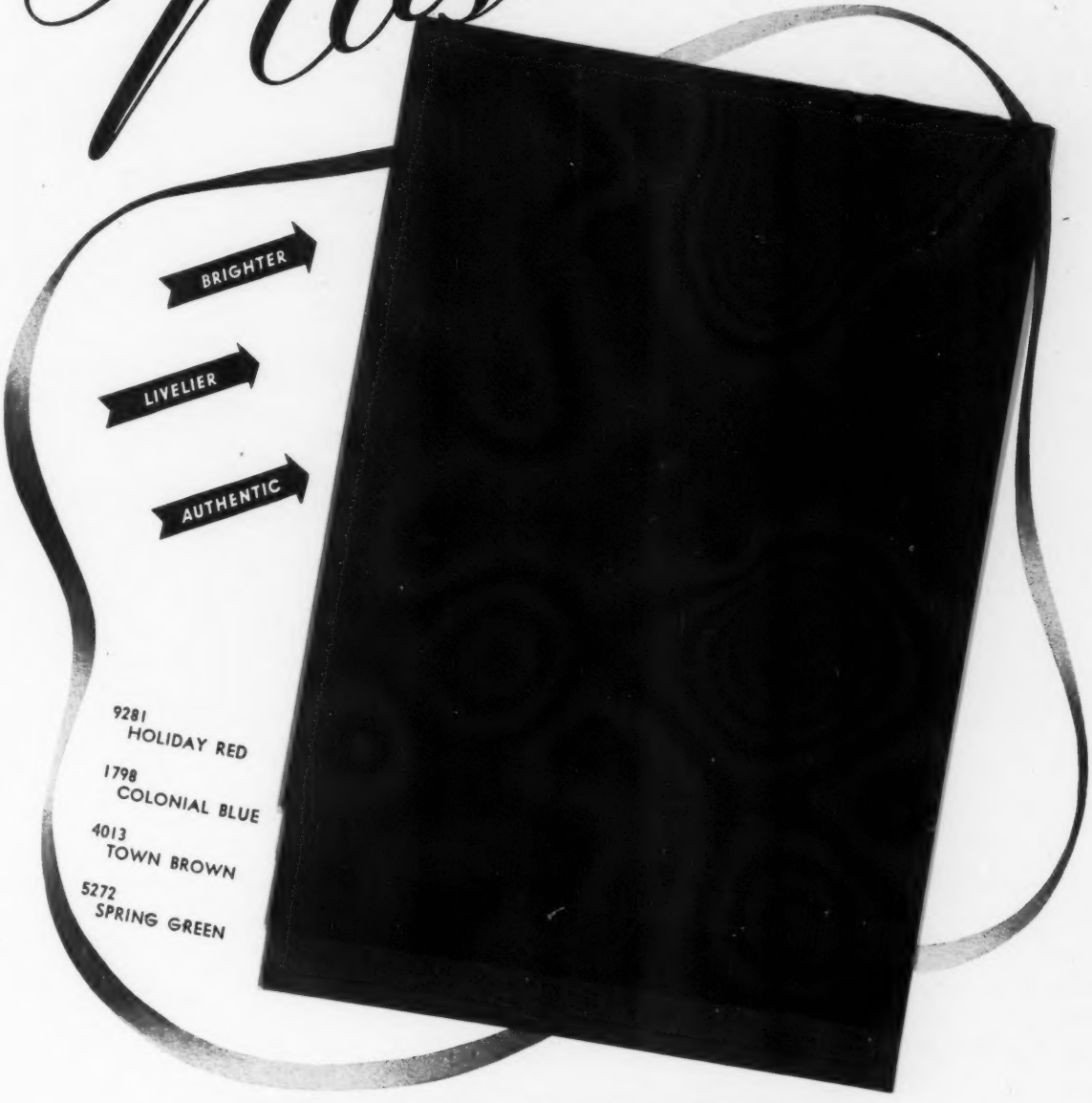
Write or wire for full facts and literature on installing your Pay-Roll Savings Plan now. Address Treasury Department, Section D, 709 12th St., NW., Washington, D. C.

Make Every Pay Day "Bond Day"

U. S. WAR Bonds ★ Stamps

This Space Is a Contribution to Victory by MODERN PACKAGING

Nashua's



NEW SEMI-WATERPROOF
BOX COVERING PAPERS

Made in a number of brighter, livelier, authentic* current leather colors with plenty of "eye" and "buy" appeal. Available in full range of Nashua standard embossings.

Liberal size working samples on request.

*These colors have been adopted as the result of an extensive survey among stylists and color experts of leading leather companies.

NASHUA GUMMED AND COATED PAPER COMPANY
Dept. M8, Nashua, New Hampshire

CREATORS · CHEMISTS · CRAFTSMEN
NASHUA
MAKES PAPER MAKE MONEY FOR YOU

★ BUY U. S. WAR ★
BONDS AND STAMPS

BUSINESS AS USUAL?

Certainly we're not conducting our business as usual. No true American firm is these days. With the strife, and subsequent change in our country today, business has naturally experienced an upheaval in routine. But that was "old" business. Today, we of the Sefton Fibre Can Co., are proud of our NEW business . . . the vitally important business of helping Uncle Sam! We're proud, too, of you, our customers, who have made our "old" business so successful . . . of you, who, by your patience and understanding, are making our new business possible! We're grateful to you, just as we are thankful that we are able to aid in our country's defense! Remember, we're all working toward the same goal . . . a free country and the return of "business as usual!"

SEFTON FIBRE CAN COMPANY

Plants — St. Louis, Missouri • New Iberia, Louisiana

DISTRICT OFFICES: Los Angeles, San Francisco, Denver, Tampa, Chicago, Des Moines, New Orleans, Boston, Detroit, Kansas City, St. Paul, Omaha, New York, Cincinnati, Cleveland, Oklahoma City, Pittsburgh, Memphis, Nashville, Dallas, Houston, Salt Lake City, Seattle

What Price

PUBLIC ACCLAIM ?

Today's war-time tempo calls for a *double-barrelled* packaging job. Each unit in your point-of-sales picture must be skillfully designed and manufactured to capture public acclaim.

— And equally important — your cartons, labels and displays must be built from economical, *available* materials.

To help you meet today's vital packaging problems, we at Brooks & Porter offer creative and manufacturing facilities with an established reputation for skill and economy.

bp

call or write

BROOKS & PORTER
INC.

CREATIVE PACKAGING • PRINTED AND LITHOGRAPHED

304 HUDSON STREET NEW YORK

WALKER 5-9494

"CEL-O-SEAL" BANDS PROTECT—AND CONSERVE—THE CONTENTS OF PACKAGES...

▶ **TODAY** when Conservation is vital to the nation's war program, small "Cel-O-Seal" bands make an important contribution. On wine, drug and medicinal packages, they secure closures firmly in place; hence—

1. Keep the product in, safe from evaporation, and
2. Keep destructive or harmful influences out.

"Wind-O-Band" seals—the kind made for distilled spirits packages—provide this protection, too; and, moreover, protection of U. S. Government Tax Stamps.

"Cel-O-Seal" also "tops off" glass packages attractively, provides individuality—and often a "second label"—for the bottle or jar that wears it.

MODERN PACKAGING

AUGUST 1942 VOLUME 15 NUMBER 12

ANNOUNCING

The 12th Annual

ALL-AMERICA PACKAGE COMPETITION

Last spring, contemplating the shortages caused by war needs, we ventured the prophecy that "perhaps packaging progress would be frozen temporarily." We were wrong. A force as powerful as packaging can't be frozen.

Almost in the same breath we predicted this: "Another year a packaging competition will be of untold value because it will reveal a picture of a great nation's ingenuity in adapting itself to shortages. Such a competition will not merely educate—it will make history."

Now that the time has come to announce the 1942 All-America Packaging Competition, the intervening months have given greater force to that prediction. In military and civilian fields packaging has measured up to new responsibilities. War needs are making unprecedented demands. Food supplies and munitions must be shipped to all quarters of the globe, must undergo the roughest handling and must withstand the rigors of frigid zones, parched deserts or humid jungles. Meanwhile civilian consumption goes on. Civilian population cheerfully relinquishes accustomed packages and accepts those which have been contrived from alternate materials.

Before the entries for the 1942 All-America Package Competition are closed, the markets will be full of these new packages. They may not in all cases be packages of beauty, though beauty by no means will be absent. They may not all provide the accustomed conveniences or even the protection we have come to depend on, but they will be packages of achievement. They will exemplify triumph over obstacles. They will manifest utility and functionalism despite difficulties and shortages.

Some may hesitate to enter the competition because their current packages fall short of their usual attractiveness. There is no need for such hesitation. The times preclude packaging as usual and the standards of judgment will be in tune with the times. The personnel of the Board of Judges will insure adequate consideration of each entry from the viewpoints of manufacturer, designer, merchandiser and consumer. The classification will not be on the basis of material used, for in all probability that will be a very short list, but the entries will be grouped together according to industry or line of business from which they come. In all cases, however, regardless of material or industry, the emphasis in making awards will be on ingenuity, adaptability, beauty-with-simplicity, maintenance of individuality despite necessary changes of form, shape or structure.

More than ever, the times call for an All-America this year. The entries may not be as numerous as usual—that could hardly be expected—yet in the matter of marking genuine achievement, the 1942 All-America Package Competition will make important history and mark the start of future progress.

WILLIAM M. BRISTOL, JR.

BESSIE BEATTY

LUCIAN BERNHARD

STANDISH C. MARSH

RAY M. SCHMITZ

THE JUDGES

The 1942 All-America Package Competition will be judged by a distinguished and diversified Board of Judges. Many factors enter into the success or failure of a package. With no sales records by which to judge and with a mere outline of what objectives were aimed at, the All-America Board selects with almost uncanny accuracy those which are headed for the heights.

WILLIAM M. BRISTOL, JR. . . For eleven years Mr. Bristol has been "Chief Justice" of the All-America Package Competition—a service record only once interrupted when last year he was called to Washington to serve the government in the War Production Board. Not until that task could be passed on to other hands did he consider returning to his own duties with the Bristol-Myers Co., where he assumes full responsibility for the steady and uniform production of a diversified line of packaged products. We are happy to welcome him back to his former post as "Chief Justice."

BESSIE BEATTY . . . Her friendly voice is heard daily over Station WOR, giving information on subjects of great importance to thousands of homemakers. Her familiarity with domestic problems, her experience with materials and equipment, her intimate knowledge of shopping habits and retail outlets . . . her acquaintance with the products used in the homes of America—all qualify her to judge what packages will appeal to the consumer—and why. Miss Beatty will contribute a point of view indispensable to the balanced judging of the All-America.

LUCIAN BERNHARD . . . Europe's pioneer independent package designer established his studio in America in 1922, where his career has been marked by successful package designs for a wide variety of products. His name has also become well known as a designer of type faces and commercial posters. He is a member of the American Institute of Graphic Arts, Society of Illustrators and the Artists' Guild, has taught design at New York University and Pratt Institute. His cardinal principle of simplicity will be singularly appropriate this year in judging the All-America Package Competition.

STANDISH C. MARSH . . . Product of the retail firing line, Mr. Marsh Director of Merchandising, The J. Walter Thompson Co., has had first-hand contact from coast to coast with grocery, drug and department stores. From long personal observation, he knows which packages and displays have "clicked," which ones have had a "so-so" existence and which have fallen by the wayside. Particularly is he acquainted with that real testing ground of package design—the super market. He brings a unique and varied marketing background to the task of judging the All-America.

RAY M. SCHMITZ . . . Several years spent in developing package designs . . . considerable activity in the sales field . . . advertising agency experience . . . These were Mr. Schmitz's apprentice and journeyman steps toward the vice presidency of General Foods Sales Co., whose merchandising staff he joined in 1934 and he was appointed to his present office in 1938 in direct charge of the group with which he had been serving. He sees packages through bifocal lenses. He knows the problems of structure, protection and production as well as the merchandising aspects.

THE CONDITIONS

The All-America Package Competition has never been governed by rigid rules and difficult restrictions. The conditions are as simple as it is possible to make them.

1. What May Be Entered: Any package, display, merchandise dispenser or container, placed on the market during 1942, or illustrations of machinery for packaging or shipping operations, installed and in actual operation during 1942, may be entered in the Competition.

2. There Is No Entry Fee: No charge of any sort whatever is made upon either entrants or prize winners. All expenses (except parcel post or other carrying charges) are borne by the sponsors.

3. Complete Packages Required: All packages must be complete with merchandise. Packages and contents are to be sent to the sponsors of the Competition: Modern Packaging Magazine, 122 East 42nd St., New York City, where they are placed on exhibit at the Permanent Packaging Exhibit Hall, remaining property of sponsors of the Competition.

4. Returning Valuable Merchandise: Arrangements for the return of valuable articles must be made at the time of entry, but the sponsors of the Competition cannot assume responsibility. Correspondence on this requested.

5. How To Make Entries:

a. Write to Modern Packaging for as many entry blanks as you need; they will be sent promptly on request.

b. Fill *every* space on the blank, giving all information requested, especially in answer to Questions No. 6 (or 7) and No. 8. Omission of this pertinent information will disqualify an entry.

c. Completed entry blank MUST ACCOMPANY THE ENTRY.

d. Use one blank for each entry. (A group entered as a "family" requires only one entry blank.)

e. Send in all *related* merchandising helps, such as display pieces, booklets, etc.

6. Who May Make Entries: Entry may be made by designers of packages, containers, displays or machinery, by the manufacturers of such materials or equipment, or by the firms who sponsor the products for which such materials and equipment are made.

7. When Entries May Be Made: Entries may be made now and until January 4, 1943—must be in our offices not later than that date, regardless of the postmarked date.

8. Number of Entries Permitted: Any number of different packages, displays, machinery installations, etc., may be submitted by any firm or individual.

9. The Judging: The judges (see preceding page) represent the viewpoints of consumers, advertisers, designers, packagers, etc. Their work is done immediately following the close of the Competition and results will be announced not later than the April 1943 issue of Modern Packaging.

10. The Awards: In each classification no more than three awards will be given. All awards are of equal importance and are given to the company marketing the entry—the package, container, display or machine.

Certificates of merit will be presented to all those who contributed significantly to the creation and production of prize-winning entries.

As heretofore, certain entries may be cited by the judges for special awards in recognition of unusual character without regard to classification.

THE CLASSIFICATIONS

No classification list can be complete or final, nor can it be adhered to rigidly. Entries do not need to be classified in order to receive full consideration. Each entry will be classified on receipt. The number of entries in any group is unpredictable, therefore, if circumstances warrant, new groups not previously listed may be formed or entries may be arbitrarily removed from one group and placed in another group.

1. **BAKERY PRODUCTS.**
   Bread, cakes, fruit cakes, cookies, pies, etc.
2. **PROCESSED, PRESERVED AND FROZEN FOODS.**
   Fruits and fruit juices, vegetables and foods not otherwise classified.
3. **CONFECTIONERY.**
   Candy, candy bars, chewing gum, fruit and nut confections, etc.
4. **DAIRY PRODUCTS.**
   Milk and cream products, cheese, ice cream, butter, etc.
5. **GROCERIES.**
   Flour and grain products, cereals, coffee, tea, spices, dried and dehydrated foods, syrups, sugars, laundry soaps and cleansers and other grocery items not specifically covered by other classifications.
6. **MEAT PRODUCTS.**
   Fresh and cured meats, fish, etc., in packaged form—not including fresh frozen or dehydrated products.
7. **BEVERAGES, WINES & LIQUORS.**
   Soft drinks, mixers, beer, ale, fermented and spirituous liquors, whiskeys, gins, brandies, cordials, etc.
8. **DRUGS, CHEMICALS & DRUG SUNDRIES.**
   Medicinal preparations, organic and inorganic compounds in packaged form, proprietary remedies, patent medicines, devices, such as clinical thermometers, hot water bottles, etc.
9. **COSMETICS & TOILETRIES.**
   Facial creams, nail polishes, lipsticks, toilet waters, bath salts, toilet soaps, perfumes, shaving creams, tooth pastes, manicure sets, combs, brushes, etc.
10. **HOUSEHOLD ARTICLES & HARDWARE.**
    Electric toasters, irons, vacuum cleaners, radios, lighting equipment, tableware, cutlery, tools, rope, nails, hose, garden equipment, screws, bolts, paint brushes, etc.
11. **OILS, PAINTS & VARNISHES.**
    Furniture oils, lubricants, exterior and interior paints, floor finishes, etc.
12. **TOBACCO PRODUCTS & SMOKERS' ARTICLES.**
    Cigars, tobacco, cigarettes, pipes, lighters, cigar and cigarette holders and cases.
13. **STATIONERY & SUPPLIES.**
    Office supplies, writing papers, office devices, pen and pencil sets, inks, etc.
14. **JEWELRY & SILVERWARE.**
    Clocks, watches, rings, cuff links, buckles, silverware, optical goods.
15. **TOYS, GAMES & SPORTING GOODS.**
    Indoor and outdoor sport items, dolls, small musical instruments, etc.
16. **TEXTILES & APPAREL.**
    Towels, blankets, sheets, pillow cases, white and dress goods; clothing, shoes, hosiery, underwear, belts, suspenders, garters, etc.
17. **WINDOW DISPLAYS.**
    Includes all pieces intended for display in store windows regardless of products advertised or material used for construction.
18. **COUNTER DISPENSERS.**
    Pieces for counter use designed to contain and dispense a product, regardless of material used for construction.
19. **COUNTER MERCHANDISERS.**
    Cards, stands and displays intended for use on counters, but not designed to dispense merchandise; regardless of material used for construction.
20. **FLOOR STANDS.**
    Large pieces intended primarily for product display on store floor, regardless of material used for construction.
21. **SHIPPING CONTAINERS.**
    Irrespective of material used for construction, designed primarily for use as a shipping container.
22. **MACHINERY & EQUIPMENT.**
    Individual machines or complete production lines installed during 1942, for packaging and shipping operations. Detailed floor plans, photographs of machines installed, samples of package or packages and detailed production data must accompany entries in this class. (*Correspondence is invited regarding this classification.*)
23. **MISCELLANEOUS.**
    Any package difficult to classify otherwise will be placed in a "miscellaneous" group for judgment on its merits, regardless of type, material, or product.

SEND FOR ENTRY BLANKS TO:
All-America Package Competition
c/o Modern Packaging
122 East 42nd St. New York City

Science gains in the search for materials

PHOTO MERCK & CO INC

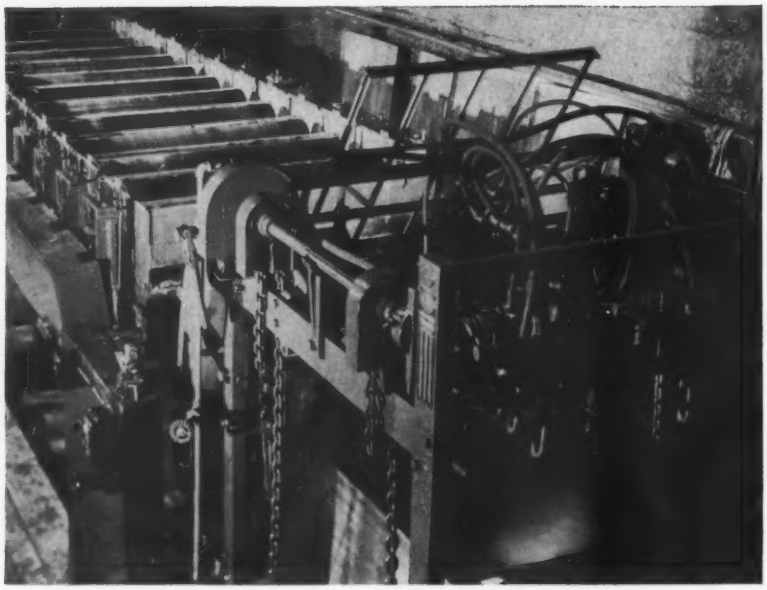
Packaging has already established a strong case for itself in many practical ways, helping the direct war effort and continuing to serve civilian needs in the face of obstacles and shortages. Its ability to make ready adaptations stems largely from the fact that its research laboratories are busier than ever. In World War I, packaging had scarcely emerged from its swaddling clothes. To few people, if any, had it ever occurred that there might be a scientific aspect to the problems of packaging.

Indeed, it might almost be said that that war ignored science and sent scientific geniuses to the battlefields instead of utilizing their talents. In this war, the scientists have been called from every avenue of research and engineering to mobilize their talents for a thousand purposes undreamed of in 1917. Whether at present we are scientifically educated beyond our moral capacity is a question beside the point, but it may safely be said that the benefits of packaging research at least will carry over into peace times and mark new highs of convenience, economy and protection.

Much of the current scientific study in packaging materials is of necessity carried on behind locked doors, in plants that—very properly—are guarded night and day by armed guards. Many of the things that are going on in these laboratories cannot be reported at this time, partly because of their impingement on military secrets, partly because many projects are still only in the development stages. This is not surprising, because it is really a very short time since "Full Speed Ahead" became the order of the minute in package research. It is safe to predict that materials and processes which border on the miraculous will be released ere long. Problems which today seem to defy solution will be solved tomorrow and consumers will be permanently enriched by those solutions. Our most significant observation is that only short weeks ago people were gazing at each other in blank dismay because of what certain shortages would do to them. Now there is a feeling of confidence that good old American ingenuity is at work to provide alternate materials before present inventories are exhausted. Meanwhile, if this review seems rather general in spots, it is because many replies to our requests for information read like this: "We have prepared a release for you on our package for..... which is at present in the hands of the Military Board of Censors and we shall be pleased to send this information to you as soon as it is passed." If one-tenth of these promises materialize, Modern Packaging will need a special edition to do them justice.

Some research is occupied wholly with the present. The Dow Chemical Co., for example, tell us that, "All of our present efforts are trying to find where our sheeting can be best used for the war effort. We have nothing new in the way of packaging developments at the present time." In other cases, where actual plant production is devoted largely to the war effort, the research staff may be looking far ahead. The Hinde & Dauch Paper Co. continue to invite packagers to use the facilities of their package laboratory for package redesigning and engineering for future production and use, even though under present conditions it is impossible for them to manufacture many of the improvements they develop. The Aluminum Co. of America, to cite another case, has just completed a new package laboratory which is not only equipped to study current needs, but also to look ahead to peace times to find new applications for materials all too scarce today. A description of that companys' laboratory will be found elsewhere in this issue.

Foremost among the packaging problems which may be solved by research are those caused by metals shortages. Of these, probably the most widely felt are tin and blackplate restrictions. One user of tinplate said: "In America we have been prodigally wasteful in our use of tin. Now we might as well proceed on the theory that Singapore is gone for good and develop some alternate materials to use after the tin supply is gone. Then, if Singapore is recaptured, we'll be that much



Continuous Bonderizing at the Gary plant of Carnegie-Illinois. This is the start of the line, with the feeder in foreground handling the stacked blackplate at 120 ft. per min. rate. The plate runs through rubber rollers (background) immersed in Bonderite "K" chemical for 7 sec., then through cold water rinse, then through chromic acid.

ahead—and we won't need to depend on imports." Reduction of tin content for most types of cans, application of electrolytic method for others, use of chemical coatings for blackplate—these are some of the research developments which are making the tin stock pile last longer or releasing it for direct war work. The present stock of tin is regarded in most quarters as adequate to carry through the 1943 pack of canned foods, allocated in accordance with the tin order (M-81). Therefore, this year presents the great opportunity to develop alternate materials.

Alternates for metal

One of these materials promises to provide a substitute coating for tin which will yield 10,500,000 base boxes annually. This is about one-eighth of the total required for the current packs of fruits, vegetables and other foods and beverages. This material is known by the trade name of Bonderite "K" and is a product of the Parker Rust-Proof Co. of Detroit, who supply the chemicals to the steel companies, in whose mills it is applied to the blackplate. The base boxes of Bonderized plate are then shipped to the can companies for fabrication into containers. Some 21 machines are nearing completion and will be installed in the steel mills. A pilot machine has been in successful operation at the Carnegie Illinois Steel Co.'s plant at Gary, Ind., for some time. By this treatment blackplate sheets are provided with a phosphate coating which involves a new technique in the application.

Ordinarily tinplate is made by the "hot-dip" method, which uses 2.5 lbs. of tin per base box. This ratio has been considerably reduced for many products under the conservation orders, but nearly 40 per cent of the required total will still be produced by the "hot-dip" method. Another 40 per cent will be supplied—for the current year—by the electrolytic method, but it is expected that Bonderized plate will come into greater use as the tin stock pile diminishes.

Deoxidized sheets of steel plate pass between a series of rollers which act as conveyors and at the same time the operations of rinsing, spray-coating with Bonderite, rinsing and drying are performed. All these operations take only 12 to 15 seconds and the plate emerges from the delivery end of the machine with a hard, rust-resistant coating. The early Bonderizing machines were considerably slower, but the process has been speeded up to the point where the treatment is commercially practical for this purpose.

Cans made from Bonderized plate must be lacquered. After lacquering, the Bonderized blackplate is of a golden color and, although different from the well-known "tin" color, is of a very pleasing appearance. The lacquer provides an added protection against corrosion, and tests have shown that Bonderized plate, lacquered or enameled, can be bent, drawn, lock-seamed and crimped without serious loss of finish adhesion or effectiveness. The Bonderizing solution must be removed from the iron plate to permit soldering, but at least two of the major can companies predict that methods will be developed in the near future by which Bonderized plate will be successfully soldered.

These major can companies, with commendable conservatism, have subjected Bonderized plate to severe tests. Pattern, as reported by one of them, includes:

1. Fabricating test lot of cans to answer the question, "How does the material act in the manufacturing process?"
2. Accelerated processing tests to make extra stringent tests for strength or pressure comparable to those experienced in the actual canning process.
3. Storage tests conducted at room temperatures and sometimes at elevated temperatures to determine behavior of processed cans. (This is considered to be the main test.)

It is quite possible that the first uses of this alternate material will be metal cans with tinned side walls and Bonderized ends. The ends of the cans require no soldering, but are sealed with the customary vinylite seal. Compared with other suggested materials to conserve tin, the consensus of opinion among the can companies seems to be that Bonderite "K" is the only one which has really gotten out of the laboratory stages. The production equipment, for use in the steel mills, is well under way. Many of the machines, it is felt by most, should be in operation at an early date.

The steel shortage imposes a problem which threatens the supply of blackplate for anything but primary essentials. Bonderite "K" has a record of many years of useful service in resisting rust in the automotive field. Provided only the blackplate can be supplied, it will extend its usefulness to the food canning field, where it will conserve one of the most critical metals. Tests have demonstrated that it can be used with satisfactory results for practically all dry or oily products, for most non-heat sterilized wet products, and for many non-acid heat-sterilized wet products.

The problem of closures is receiving a large share of attention from the researchers. Conservation orders have been issued by various unrelated Industry Branches of WPB with apparently little thought about how industry itself is interrelated. Metals needed for munitions have been banned for closures, but plastics are also critical. These two substances are the principal materials for closures and of late the double restriction has put the heat on research laboratories to speed development of alternate materials. This phase of the shortage situation will be found treated at length in a later issue.

Closure materials

Just emerged from the laboratory and now in production is a closure of paper for glass containers, developed by the J. T. & A. Hamilton Glass Co. of Pittsburgh.

Efforts have been made by soft drink and beer producers to fabricate crown caps from scrap tin cans, but two obstacles present themselves. Scrap tin cans don't come in fast enough and special machinery isn't available to perform the manufacture. Attempts to re-use crown caps have not been signally successful because of a high percentage of leakers. In addition, the sanitary feature presents a problem. It isn't possible to sterilize old caps thoroughly.

As one research expert put it, "It's easy enough to develop an effective closure for any kind of container. The problem is to use existing machinery to make your new closures and to formulate a type which can be applied economically on existing packaging lines. You can't get any new machinery, you know." That situation practically puts the jinx on one new type of closure which was hailed by its enthusiastic inventor as the complete solution to the problem for the carbonated beverage producer. The idea—ingenious enough—was to put a concave plug into the bottle neck; the pressure of the carbonated beverage would exert a force against the concave plug and make a perfect seal. "Sure—it can be done," said a soft drink maker when told about it. "It's a hand application, but now show me how it can be done at our production rate of a million bottles a day!"

Hartford-Empire Co., glass machinery manufacturers, and Dewey & Almy Chemical Corp. are collaborating actively on the development of a glass closure using a flowed-in sealing compound. This development is being intensively pushed and holds particular significance for food packaging.

Further grappling with the closure problem is evidenced by this report from Dewey & Almy Chemical Corp.:

(a) For dry vacuum packs such as coffee they already have a new non-rubber synthetic for metal caps.

(b) For hot fill and process packs they have nothing to date, but are working day and night. Results, however, are promising and they *hope* to have a new non-rubber sealing gasket for both packs later on in the year.

(c) The use of coating compositions for standard paper caps alone and with flowed-in sealing compounds to give tight closures; thermoplastic coatings against moisture-vapor and water and synthetic coatings to resist oils and greases. The latter coatings are still developmental. It must be borne in mind that paper is not a replacement for metal in all cases—that it is not adapted to process or vacuum packing.

(d) Thermoplastic coatings for fibre cans. In addition to the work on thermoplastic coating for knock-down containers, there is considerable interest in thermoplastic coatings for rigid fibre cans. Such cans are beginning to find use as containers for syrups, baking powders, cocoa, etc., where a vacuum seal is not essential.

New coatings

Elaborating on this last subject, Dewey & Almy point out that to be commercially useful, these coating materials must be relatively inexpensive and also available in reasonable quantities without priorities. A new chemical specialty, a thermoplastic coating, has recently been put into use which meets these requirements and supersedes the various forms of wax coatings hitherto employed. This new thermoplastic coating has been used successfully in the packaging of foodstuffs, dried eggs (where oxidation as well as moisture is a great factor), army rations and ordnance packages. It offers great promise for such products as tobacco, coffee, etc. It comes to the manufacturer and packer as a finished product, ready to use, so that uniform properties are assured and it is applied in either of two ways. According to the first, the container is coated inside and out, then filled and sealed. By the second method, the product is first placed in the container, which is then sea ed, and the finished unit is covered with the thermoplastic coating, either by immersion or by surface flooding.

When the problem of finding a suitable and effective coating for fibre containers was attacked, wax in one or another of its various forms was first considered. These wax coatings, while reasonably effective, have several disadvantages. At the lower end of the scale, paraffin, while comparatively inex-

These glass jars have closures of paper. These closures are recent developments which have been placed on the market.

Coffee, paper cups and dehydrated eggs are packed in paper. Coffee carton is of moisture- and grease-proof cardboard, lined with parchment. The patented cup collar on the cups replaces a former cellulose wrapping. Type of protective packaging used for Lend-Lease shipments of dehydrated eggs.

pensive and offering easy penetration of the board, affords no surface covering, so that the exposed fibres act as wicks and thus permit transmission of moisture. It is also extremely brittle and gravel-like, because of the size of the crystals and the lack of any lubricant between them. More expensive and very difficult to obtain are the so-called amorphous or microcrystalline waxes, which have less penetration than paraffin and are much less brittle. The crystals in these microcrystalline wax coatings are smaller and a more continuous film is given, but there is blocking at warm temperatures under the melting point of the coatings. One of the first steps in developing an effective fibreboard coating was to blend the two. The aim was to secure a homogeneous mixture which would have sufficient anchorage and enough of a continuous outside coating, yet would not necessitate the use of expensive materials or those unavailable because of priorities.

Before the present emergency, the research chemists of the Dewey & Almy Chemical Co. had developed a new type of thermoplastic coating in which processed rubber was incorporated to act as an inhibitor of crystallization and as a jelling agent to control penetration. Since Pearl Harbor, Dewey & Almy research laboratories have succeeded in duplicating this successful thermoplastic coating without the use of processed rubber. Materials non-essential to the main war effort have been employed and the resources of chemical engineering have created from these non-vital materials a coating which has an effective jelling action, thereby controlling penetration and acting as a crystal inhibitor. At the same time this material produces a continuous surface film that prevents wicking. Studies show that the crystals in this thermoplastic coating are in the range of 18 microns, whereas the best mixtures of microcystalline paraffin score for crystals in the magnitude of 47 microns.

It is interesting to note that this thermoplastic coating withstands blocking better than wax mixtures, because of the nature of its film. Boxes stored in contact with each other under a given pressure do not block at temperatures between 90° F. and 110° F., whereas the best of the wax mixtures have a tendency to block, so that on cooling the coating is peeled off. This exposes the board and thus brings about subsequent loss of protection.

At the same time as this development in the chemical company's laboratories, the box makers have been doing considerable work on a sizing for their board, in order to give a denser fibre and to stop the penetration of the coatings by keeping them on the surface. However, the scorings used in making up the boxes break the surface of the fibreboard, no matter how dense, so that the jelling action of these chemically engineered thermoplastics is still needed to prevent penetration at the score marks and to provide complete protection. Otherwise, too great moisture absorption will occur.

Modifications of the thermoplastic coatings are being used in the collapsible tube industry, to afford protection against lead and thus make possible the use of the new lead and lead-silver alloy tubes. The coatings are also finding use in the new plastic tubes now being experimentally produced, to make them moisture-vapor proof, so as to prevent drying out of the contents. In addition, paper and cellophane packages have been experimentally coated with the thermoplastics, although there is no commercial use at the present time. It is far too early to predict the limits of the usefulness of this chemical specialty, but its possibilities are great and offer hope to the steadily increasing numbers of packers who are using fibre containers.

Collapsible tubes

The collapsible tube is another sizable headache for the laboratories. There are numerous non-metallic substitutes. Many of them are being tested by commercial users for their own products. One difficulty seems to be that the test cannot be accelerated sufficiently to obtain reliable results. One tube manufacturer said, "None of the items on which we are working have advanced to the point where we even dare to look upon them as practical propositions"—an attitude too con-

servative for comfort, but infinitely more satisfactory than unsupported claims made by over-enthusiastic inventors.

The problem is not an easy one. Structurally, the tube must have a positive chime or joint between side walls and top. The side walls must be of material which resists acids and greases, and must be moisture-proof. The end seal must be fool-proof. The tube must be able not merely to stand up during the hazards of manufacture, but must withstand the consumer's rough handling during the life of the product. Here, as with closures, the machinery situation poses a serious limitation and some of the materials, such as certain plastics and rubber derivatives which would make ideal side walls for certain products, are just as critical as the metals for which substitutes are being sought.

The Food and Drug Administration is taking a keen interest in collapsible tube developments, but they are not making tests because any satisfactory testing program would require two or three years to show reliable results. They have always felt very keenly that lead poisoning is a danger if certain alloys are used. They are willing to waive some of their standards for the duration, but this is one they insist on maintaining—for which the consumer should be duly grateful.

The Toilet Goods Assn., which maintains an unusually valuable service for its members, made this statement recently: "In a previous bulletin we suggested lead-silver alloy tubes to replace tin or tin-coated tubes. This proposal was advanced for study by members of the industry and the Committee now finds that such tubes are not satisfactory for use on all products, since in the case of certain products, notably shaving cream, discoloration of the product may result. The purpose of using lead-silver alloy is to permit the production of a lighter weight or thinner tube. For protection of the product against discoloration and contamination such tubes should have an inner protective coating of wax or lacquer, depending on the product." All of which seems on the negative side—but if, like Edison, we discover 2,000 things that aren't so, we are making definite progress. The editors of Modern Packaging are watching the situation closely. We know just exactly which tube or tubes (for in many cases it's more than one!) are being tested and what large commercial users are conducting the experiments. Perhaps, it is quite possible that by the time this article appears in print some definite announcements will be made. At the present time nothing can be said without embarrassing makers and prospective users—either or both—or at best giving currency to rumors which may later prove unfounded. Meanwhile the collapsible tube manufacturers are operating, on a somewhat restricted basis, it is true, but there appears to be time to work out one or several solutions which are just around the corner. Most commendably, there seems to be apparent a disposition to share results with others—the commonest attitude is, "We're all in the same boat."

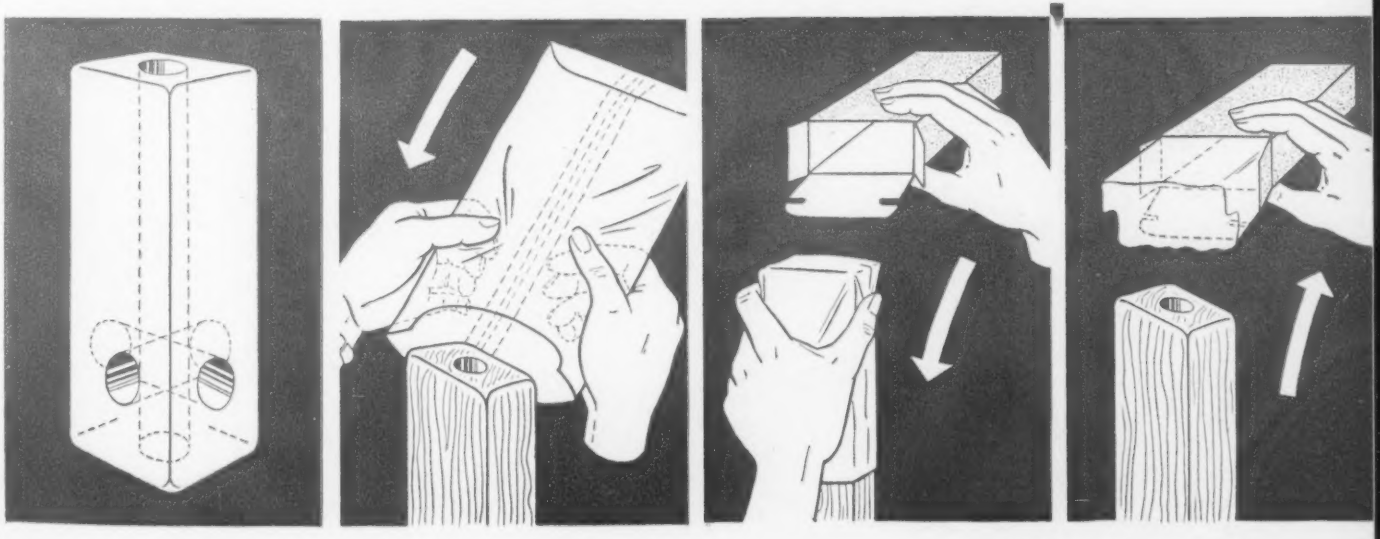
New cellophane uses

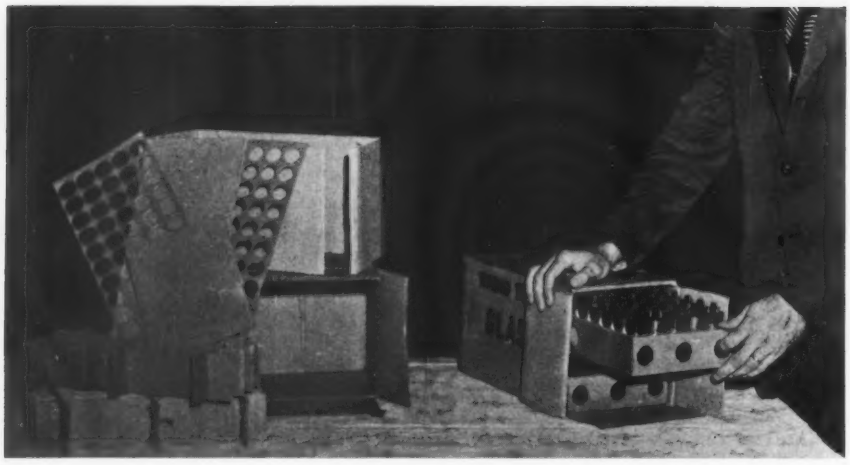
Packaging's raw material producers are keeping their laboratories busy. From the Du Pont researchers comes a report so significant that we are quoting it in its entirety:

"At the moment, our cellophane research departments are placing greatest emphasis on metal replacement packages. Although our company has long been working with container manufacturers on cardboard and fibreboard package incorporating cellulose film, the recent restrictions on metal packages have greatly speeded this work. Containers have already been adopted on products as varied as baking powder, shortening and caulking compound with the result that large quantities of precious materials have been released to help to satisfy the armament industry's tremendous appetite for metal.

"Especially helpful and flexible is the so-called bag-in-box type of unit which features a cellophane bag set snugly in a regular carton. Fairly simple to fabricate, easy to set up and load, rigid, it has proved the quickest and simplest answer to many packaging problems for a variety of products. It is on this unit that cellophane research places its greatest

From left to right. Folding box liner technique. Wooden mandrel. Corners rounded, smooth sanded finish and preferably spray lacquered. Holes 3/4 in. to 1 in. drilled from top to bottom and horizontally from front to back and side to side about 1 in. from the bottom to permit free movement of trapped air in and out of the mandrel. Bag is placed over mandrel. Bag should be drawn down over the mandrel. After bag is in position, the bottom and extending "ears" of the bag are flattened against the mandrel. The unit is removed from the mandrel simply by withdrawing box.





RCA shows how 100 tubes may be packed in a sturdy carton for shipment while protected in two single piece heavy cardboard trays. To the left is shown the many pieces of packing material formerly required to pack the same number of tubes, indicating the savings in material possible by the new method.

immediate stress, not without continuing, of course, its important work on cellophane-lined cylindrical units.

"Another field which is getting a major share of attention in our packaging studies is the frozen food industry. Naturally, under a war economy that lays particular emphasis on the production and preservation of huge supplies of food, the frozen food industry is expanding as rapidly as possible. Experience has shown that proper packaging is as important as refrigeration to the safe-keeping of frozen foods. Long a producer of special films for frozen foods, we are now making every effort to adapt cellophane to as wide a variety of frozen products and processes as possible. Serious attention is also being given to the development of bulk containers with cardboard and cellophane to replace metal for the institutional trade.

"Because dehydrated foods also are sponsored so heavily by the government, they, too, have come in for a large share of research. In fact, a special section devotes most of its time to this field alone. Cellophane is widely used on several of the soup mixes now found in retail stores and important dried products for lend-lease are riding the oceans, safely convoyed to consumers abroad in cellophane. This is a new field with limitless possibilities and the work done so far is only a beginning. Dehydration calls for continuous study and attention and our laboratories are giving it its due."

Expressing the hope "that it will be of assistance to harried packaging executives," The Dobeckmum Co., important fabricators of cellophane, has issued a folder entitled "Wartime Packaging," which may present one answer to shortage problems in the form of a simple method of inserting cellophane bag liners into either cartons or fibre cans. The process is a hand operation, requiring only a wooden mandrel over which the cellophane bag is slipped, and the outer carton or fibre can is placed over that. The container is then ready to be placed on the automatic filling line. By this method, it is claimed, containers may be produced of liquid-tight cellophane of either single, duplex or laminated films in sizes large enough to contain several gallons; in fact, they report, "Enjoying a substantial business with the frozen egg packers in 30-lb. units."

Closing of shipping lanes has reduced to zero imports to this country of ingredients for inks and adhesives. General Printing Ink Corp., using the facilities of its many-sided organization, has formed a pooled research division within itself known as General Industrial Finishes. Among the products which it will formulate and manufacture are many of interest to packagers: textile coating, chemically resistant and sanitary can and drum liners, collapsible tube coatings, bottle cap finishes and screw cap machines.

New adhesives

Adhesive manufacturers are busy. Few people outside of that field, unless they have crashed headlong into an adhesive problem, realize how thoroughly scientific the adhesive man must be. Manhattan Paste & Glue Co. has reported the creation of new resinous glues which may be used where latex formerly did the job. In addition, they have developed a vegetable glue which will solve some problems which have been perplexing the paper box industry, where flexible glue has been relied on for many years.

National Adhesives Division of National Starch Products told how the Army was induced to alter a specification which designated animal glue for winding tubular shell containers so that now they have qualified the use of vegetable dextrine glues for this work. It was pointed out that there are ample supplies of vegetable glues which comply with this specification and which, in fact, have been standard for commercial tube winding operations for the last twenty years. By permitting the tube manufacturer to use specified dextrines in any one of several dry or liquid forms, the use of special heaters may be avoided, saving electric current, scarce metals and labor time of preparation. Smaller tube plants, not equipped for cooking dextrines or running animal glue hot, as a result of this changed specification may qualify as sub-contractors on government orders for shell tubes.

Adhesives play a large part in the manufacture of all-fibre cartons, kegs, drums, etc., which in many cases require special coatings and/or linings for grease-proofness, moisture-, vapor-proofness, etc. They frequently impart rigidity and share in the responsibility for the resistance of the material to grease, moisture, etc. National Adhesives stated that replacements of metal wraps on candy bars and of metal or metallic labels have also been successfully carried out with the proper selection of adhesives. Gasketing compositions are being perfected which should work their way into the canning industry. High wet strength kraft paper used with water-resistant seam glues and bottom pastes can take unusual abuse under wet conditions. It is probable that the multi-wall bag will feature

more prominently in the war effort. Shipping containers intended for F.S.C.C. use require water-resistant adhesives both for fabricating and sealing. In this field, it is probable that water-resistant corrugated containers are here to stay.

Williamson Adhesives, Inc., reported developments stimulated by war shortages which are now going through their laboratories:

Improved adhesives for joining labels to moisture-proof cellophane.

Improved adhesives for joining labels to waxed paper.

Development of pressure-sensitive adhesives from materials now available in place of rubber previously used.

The tremendously increased number of uses of paper has necessitated the development of new adhesives. Happily, adhesive manufacturers are qualified to meet the situation.

Paper developments

Scientific research is a hard-working member in the paper industry these days in the independent laboratory, in the paper mill and at the fabricator's plant. Fortunate indeed is that fact for the packager, because of the extra load paper must now carry. Luckily, the paper supply at present is ample to meet that responsibility. Makers of fancy coated papers have gone strictly utilitarian and are producing protective sheets that resist oils, are gas-tight, moisture-vapor proof, have heat-sealing properties. The current attitude was expressed by one of these manufacturers: "We expect to produce more and more papers to assist in the war effort directly and also for essential civilian use." Unfortunately, at the moment, many details regarding these papers cannot be disclosed. Enough of them are in the offing to assure the packager of a quantity and variety to perform many functions hitherto thought only possible for metal or plastic containers." In this connection, however, as the Lowe Paper Co. pointed out, it may be necessary to revise existing standards in respect to moisture and grease resistance. They said such wide margins of safety are set up by materials of the nature of tin and glass that when other materials are considered as substitutes there is no precedent on which to base worthwhile tests. For the duration, this may oblige many packagers to be satisfied with less than perfection, but a careful study of the papers which will shortly be offered will be rewarded with many a pleasant surprise. For example, it was probably the appearance of the foil order last November, which gave the Riegel Paper Co. an early start in developing new types of protective wrappings, some of the most recent of which, according to their announcement, are oil-proof and anti-corrosive, and meet the specifications of WPB for packaging ordnance general supplies. These same qualities will doubtless have wide commercial application, too.

There is less occasion for secrecy on the part of the paper fabricators. The two paper box associations are approaching the research project in a very intelligent way, in effect pooling the individual resources of their members for the common good. If their efforts are pushed through vigorously, the results—to use the words of one leading folding box manufacturer—"should be interesting and heartening to many users of containers now made of tin and glass."

Specific results are reported by individual fabricators. The Cambridge Paper Box Co. is producing impregnated fibre containers for such products as thermos bottles which appear to have all the protective qualities and the handsome appearance of the metal cases which preceded them and which are now under priority restrictions.

Paper specialty houses find themselves producing packages for products previously packed in other materials. The Sutherland Paper Co. has developed an ingenious pack for their paper cups. In the interests of sanitation, protection from handling in the retail outlet was necessary, even if the priority regulations prohibited the use of cellulose wrapping for such products. Their new patented cup collar is an excellent solution to the problem.

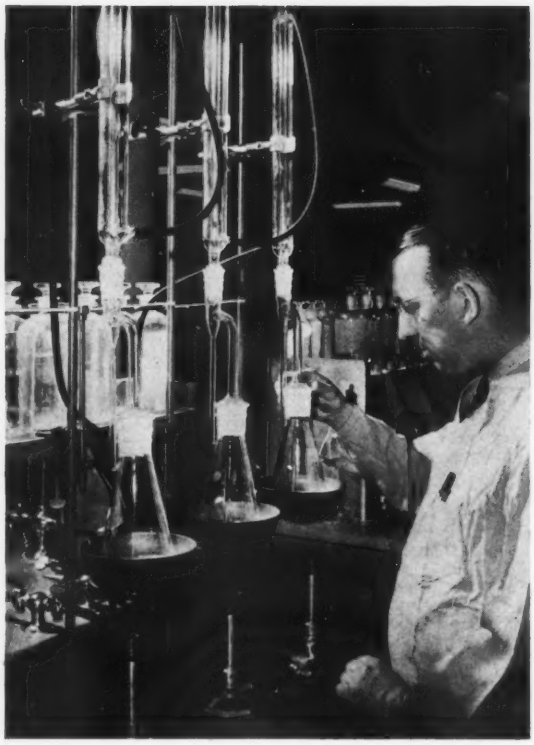
Anticipating an increased sale of coffee in the bean when the vacuum-pack can might no longer be used, this same house developed a coffee carton of moisture-proof and grease-proof paperboard, lined with parchment and equipped with a lock-top which permits grinding in the retail store. Of similar parchment lined paperboard, also grease-proof and moisture-proof, is their dried egg carton developed to meet the Lend-Lease specifications.

Makers of paper bags are fitting their products to an almost endless list of packaging jobs. "Not very long ago," wrote the Equitable Paper Bag Co., "many packers of food products would say it was unthinkable to pack certain products in anything other than a tin can, but necessity has proved that the paper bag is a very efficient substitute for the packaging of some products." Their heavy-duty paper shipping sacks, they claim, are being used extensively to replace burlap bags, boxes, crates and in some cases more expensive corrugated cartons. Union Bag & Paper Corp. reported the use of multi-wall, heavy-duty bags for continent-crossing shipments of fruits and vegetables and have also demonstrated that design characteristics need not be relinquished when drastic package changes are made which affect shape, form, structure and texture of the packaging material.

Bag boom

Restrictions governing the use of rubber hydrochloride sheeting went into effect just about the time Thomas M. Royal & Co. were getting into stride on production of double-walled bags for food products. Undaunted by these restrictions, their own research staff set to discover satisfactory alternate materials. How successfully they solved this problem is evidenced by a collection of paper bags they sent us recently—some of them with "visibility" windows—every one of which was manufactured to contain products formerly packed in vacuum tin cans, slip cover tin cans, or hermetically sealed glass or tin packages. More than a score of products were represented—tea, coffee, pasteurized prunes, tobacco, machine gun parts, dry soup mix, cookies, insecticides, fire extinguisher re-fills. Merely to look at these bags causes one to marvel at the versatility of paper and the adequacy of the research staffs which are studying new ways to use it.

Users of packages are not leaving all the research to the makers of the raw material and their suppliers. Many of them are conducting extensive studies and experiments on their own hook. RCA Co., Inc., recently put a package research man on the specific task of repackaging their line of radio tubes. The story is too long to tell in its entirety in this article, but the results of this study were manifested in at least three important directions: A considerable improvement was made in the method of packaging (*Continued on page 97*)



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1. *Efficiently designed Alberene stone laboratory work table at which qualitative examinations are made in preliminary packaging inspections.* 2. *Close-up of same table, showing D. B. Strohm using Bidwell and Sterling moisture-determining meter of latest design.*

Alcoa opens laboratory for study of war packaging

America's packaging industry had really just begun to appreciate the adaptability of aluminum as a packaging material when the urgent requirements for aircraft and other vital implements of war quickly and completely shut off all aluminum supplies previously employed for civilian purposes. With no more of the versatile metal available for commercial packaging requirements, the numerous civilian users of aluminum packages had to shift over and find substitutes.

The continuation of research on aluminum packaging materials during the emergency period was deemed of real importance, however, since it was recognized that proper packaging of perishables might well play a significant role in the preservation and safe-keeping of supplies for the armed forces fighting on world-wide battle fronts for the United Nations, as well as essential commodities for the home front.

The problems posed by wartime transportation and storing of supplies for fighting men—especially such perishables as foods—are many and serious. It is to be expected that, under the necessity of moving enormous quantities of material over long distances and with great speed, considerable rough handling will result. Severe and sudden changes in climatic conditions must inevitably be encountered. Shipping space is at a premium and reduction of bulk is important.

The part to be played by good packaging in the Victory Drive becomes evident. Shipping containers for war materials must be sturdy and able to "take it" under the stress of vigorous handling. Packaging materials used must themselves resist abnormal as well as normal changes in temperature and humidity. At the same time they must continue to protect the products they enclose from the same shifting conditions. Packaging must not add excessively to the bulk of cargoes and ladings already reduced to a minimum, such as dehydrated eggs, fruits and vegetables.

With today's war requirements in mind, the Aluminum Co. of America recently placed its newly enlarged packaging research laboratory in operation at Edgewater, N. J. Scientifically laid out for maximum efficiency, it is probably one of the most completely equipped institutions for packaging research in the United States today and is the modern successor to a smaller laboratory which in the past had done considerable important packaging research.

Activities at the Edgewater Packaging Laboratory will be directed toward obtaining concrete scientific evidence on the relative merits of packages made of metals and other substances, tested under laboratory conditions resembling, as closely as possible, those conditions which are encountered under the grueling requirements of global war with its extremes of climatic variation and extraordinarily hard handling. Packages that successfully withstand such tests in war service can, of course, be relied upon to satisfy the less

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severe peacetime conditions which make fewer demands.

Some of the apparatus and equipment which have been assembled in the Edgewater Laboratory to assist the researchers is pictured in the accompanying photographs. Here are a number of interesting items:

1. *A Vapor and Gas Transmission Meter* which was designed for the purpose of determining the quantity of various vapors and gases which are transmitted by different packaging materials and wrapping membranes. The assembly is constructed principally of glass and is connected by tubes to a bank of cylinders containing gases under pressure. These gases are those commonly encountered in shipping and in storage places. The apparatus is made so that transmission determinations can be made on five samples, or different types of packaging membranes, at once with the same gas pressure and other conditions prevailing. Gas charges are controlled by pressure gages and mercury pressure valves.

2. *An Alternating Refrigerator and Heat Desiccating Cabinet*, which operates on a temperature range of 38° to 108° F. During the first cycle of its operation, the temperature remains at 40° F. for a 12-hour period. Then, over a period of four hours it raises the temperature to 105° F. and maintains that heat for another 12-hour period. When the cabinet interior is at 105° F., the relative humidity is approximately 70 per cent. The reactions which take place inside this cabinet are to simulate some of the conditions regularly met in the transportation and storage of certain commodities in temperate and semi-tropical zones where sudden appreciable changes in temperature and relative humidities may be met.

3. *A Storage Cabinet with Temperature and Relative Humidity Control* operates at a constant temperature of 105° F. with a relative humidity of 96 per cent continuously. Packages placed in it for testing are, therefore, subjected to conditions approximating those found in the southern states in America, humid sections of tropical countries, the holds of ships in warm climates and in South America.

4. *A Dry Heat Incubation Cabinet* which has an internal capacity of 188 cubic feet and is maintained at a temperature

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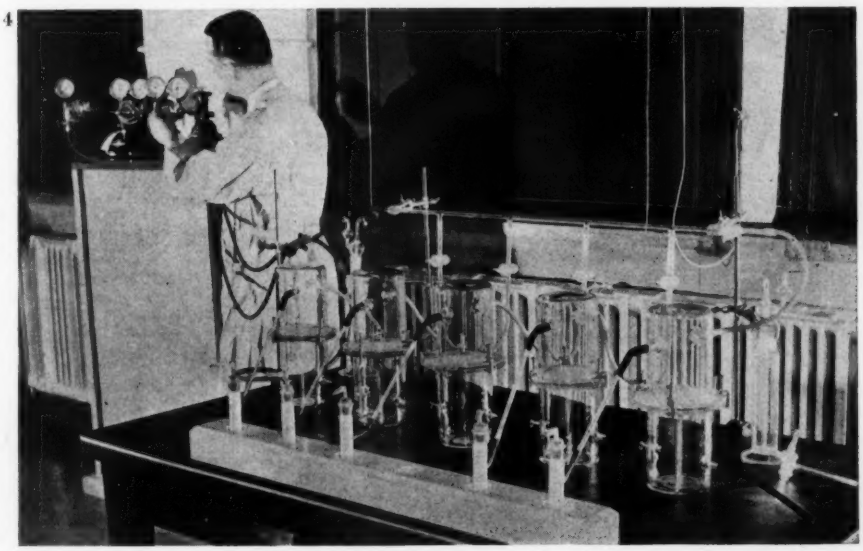

3. General over-all picture of the Edgewater packaging laboratory. 4. Apparatus to determine amount of vapors and gases which may be transmitted or absorbed by various packaging membranes. It is connected to bank of gas cylinders containing gases commonly encountered in commercial shipping and storage.

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of 104° to 105° F. with a relative humidity of approximately 23 per cent. The heated air is circulated throughout the inside of the cabinet by means of an overhead electric fan. The tests conducted in it are under conditions similar to those found in southwestern parts of United States and dry areas in tropical countries. It could be called the "desert room."

5. *The Filling Room* where all locally filled sample packages for testing are made up before being subjected to the various test conditions. Packages are filled at a gleaming porcelain-topped table which extends the length of the room. Ultraviolet lamps, which produce special wave lengths effective in killing mold spores, prevent mold growth and kill many types of bacteria, are located over the filling table, beside the heat-sealing equipment and in positions that cover the room generally. Included in the filling room equipment is a sensitive keyboard analytical balance for weighing and determining test samples.

6. *An Electrophotometer* for the detection of discoloration if any is present in liquids which have been stored in packages. By substituting a photoelectric cell in place of the human eye, the electrophotometer makes it possible to obtain an accurate match between a standard and an unknown, even eliminating the necessity of keeping standard solutions for comparative purposes. Many older methods of colorimetric analysis were unsatisfactory because they depended on the human eye.

7. *A Microscope Table* at which a binocular microscope is used in making examinations over surface areas of packages which have come in contact with the product packaged, in order to note possible effects of one upon the other. It may be extremely useful to detect etching, pitting or staining of packaging materials after subjection to test conditions.

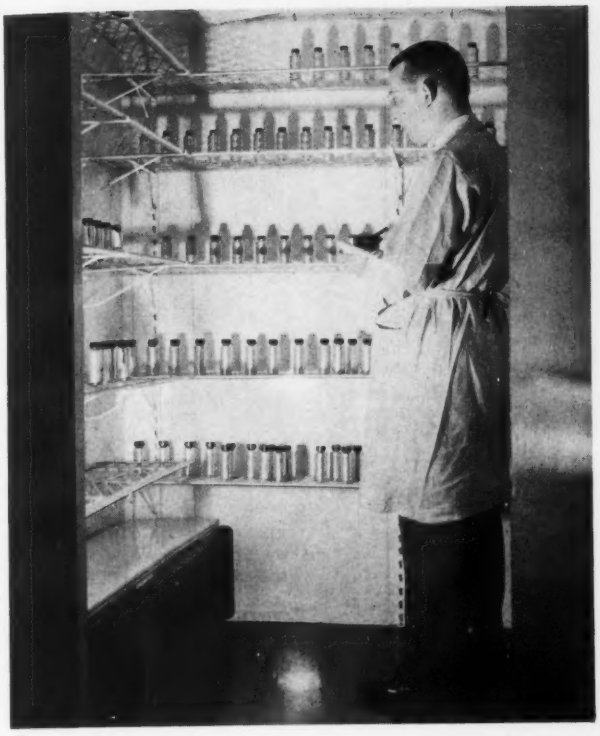
8. *A Laboratory Work Table.* In the Edgewater laboratory the work table was designed for efficient use and has many special features. There are: a sink with hot and cold water, gas outlets, 110 and 220-volt electric outlets, gage-controlled compressed air taps, ample stone racks for reagent bottles, a nine-inch, two-pan torsion balance, an electric centrifugal-mixer, a Beckman hydrogen potentiometer of latest design, three units of Bidwell and Sterling moisture-determining apparatus, and many other desirable features in handy positions. This work table is also used for qualitative examinations which are made before packaging tests.

9. *The Heating Apparatus Table* is equipped with seven important pieces of heating equipment. There is a large oven of the mechanical convection type, electrically heated and thermostatically controlled, which operates at any set temperature desired within a range of 265° and 750° F.; two small hot-air ovens, thermostatically controlled, which are used for hot air dry sterilizing and moisture determinations; an infra-red evaporator; an aluminum steam-sterilizing unit which operates at 20-lb. pressure, and an electric water bath, also thermostatically controlled.

Other equipment includes a regular refrigerator which operates at a constant 40° F. temperature, heat-sealing machinery, a Mullen tester to check the bursting strength of membranes, and other pieces of package testing apparatus.

Extensive experimental work is scheduled at Edgewater to

5. Using binocular microscope to make examinations over surface areas which come in contact with product packaged. 6. Stone table equipped with several varieties of heating apparatus. 7. Filling room where products are placed in aluminum tubes, cans or foil envelopes. Lamps produce wave-lengths of ultra-violet light which are effective in killing mold spores, etc.



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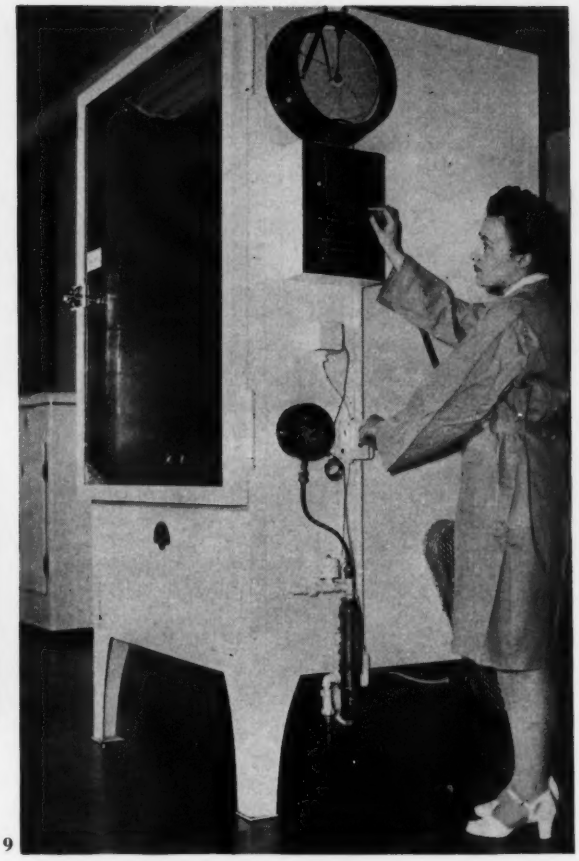

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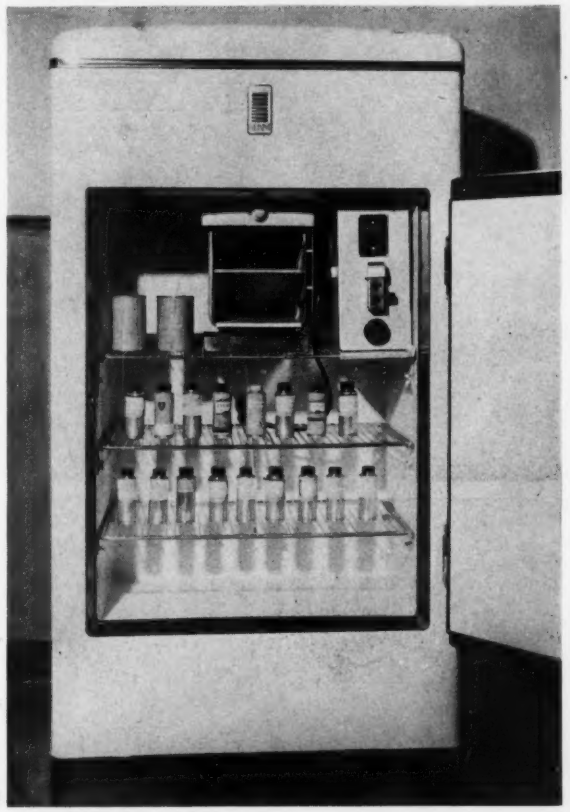
8. Dry heat incubation cabinet. Tests conducted in this cabinet approximate desert conditions. 9. Control temperature and relative humidity cabinet. Conditions approximate those of southern states, South America, tropical countries, holds of boats in such latitudes. 10. Alternating refrigerator and baking cabinet.

determine moisture transmission, dehydration-preventive qualities, odor transmission, odor-repellent properties, absorption of odors, and vapor or gas transmission and absorption. Tests will be conducted to obtain statistical data about fabrication qualities of foils, wrappers, caps, jar-top liners, cans, metallic bottles and all types of packaging materials and studies made of coatings and their effectiveness in preventing corrosive action when applied to metal containers.

Some of the problems with important wartime implications upon which the laboratory's work will shed new light are on problems involving the packaging of fresh meats, fish, vegetables and fruits, all of which are affected by dehydration, putrefaction, insect contamination, molds and other difficulties during transportation and storage. Protection of prepared foods such as dried fruits, dehydrated vegetables and fruits, dehydrated soups, cured and dehydrated meats, dried eggs, frozen foods and other perishables through the use of aluminum foil wrappings will also be studied thoroughly in the interest of protecting them against rancidity, moisture, fermentation, molds, loss of flavor and bacterial contamination. Dairy products, dried beverage powders, such as coffee and cocoa extracts, cereals, tobaccos, pharmaceuticals and technical products will be given extensive laboratory attention from the packaging standpoint.

The Edgewater laboratory will concentrate on the improvement of essential packaging problems having direct application to the war effort until peace is again in prospect. Purely commercial aspects of packaging research will be sidetracked for the duration, the company stated, but the laboratory's facilities have been designed for ready switching to cope with problems of tomorrow when the war is over.



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Glass closure

The metal closure problem for glass containers in many lines of products is becoming more and more acute. Among those who took a forward step in conserving metal for closures is the Stickney & Poor Spice Co. of Boston. This company formerly used a tin closure for a wide-mouthed mustard jar. Recently they adopted a glass top for their mustard packages. The new glass cap is held in place by a minimum of wire clip which saves important tin plate. The cap also requires a minimum amount of rubber, also a shortage problem which is not yet near solution in the packaging field. Aside from its material-saving qualities, this new package has met with remarkable success on dealers' shelves. The company has made the most of the change-over by promoting the re-use features of the jar. The inside liner, for example, has a printed message calling attention to this re-use feature—suggesting that the container may be used as a table jar, ice box jar or for jams, jellies and table sugar, or for the bathroom shelf. The mold for the lid provides an excellent handle for removing the cap when the jar is re-used. Consumers have been quick to appreciate this new container because of its clean-looking appearance as well as anticipated re-use features. The label is a narrow band which covers a very small portion of the jar and thus allows the product to be clearly visible in its transparent housing. If the glass and closure situation is clarified and sufficient rubber is released or satisfactory rubber substitutes can be found, it is possible that more of these glass-lidded jars may be seen.

Credit: Jar and cap designed and made by Hazel-Atlas Glass Co.

DESIGN HISTORIES

Without rubber

Dosage of Navitol, a vitamin product made by E. R. Squibb and Sons, is measured by drops. For this reason, the company formerly included in a carton unit, with the small amber glass bottle containing the product, a supplementary medicine dropper closure of plastic and glass with rubber bulb. Because of the shortage of rubber or acceptable substitutes, the company was no longer able to supply the medicine droppers and it became necessary to redesign the package without rubber. After considerable experiment in the company's Brooklyn laboratory, the package was redesigned to meet wartime conditions and is now on the market without rubber. The same bottle is used, but instead of the medicine dropper, the lip of the bottle is covered with a disk-like seal of a new patented type of cellophane. In this are two holes. Contents are dispensed by tipping the bottle slightly and allowing the contents to drop from either hole. The same metal cap for the bottle is used and covered by an outer transparent seal before the closure can be removed. Elimination of the separate medicine dropper from the package has eliminated the need for the carton unit and, therefore, without the carton makes possible the saving of considerable shipping space. The same basic label design has been retained, but on the back is complete printed information about why the change had to be made as well as directions for dispensing the contents through the cellophane film. Users are told that "three drops from this bottle are approximately equal in vitamin potency to five drops from dropper formerly supplied" and how to protect contents.

Coated bottles

Ingredients of some products packed in flint glass are sensitive to light. Sun tan lotion made by Norwich Pharmacal Co. is such a product. This item, of course, has to be displayed in store windows and other places where light has a chance to act on it. The company discovered that in clear glass, like the packages with the dark caps shown in the background of the accompanying photo, the contents of the bottles tended to turn dark on exposure to strong light. While this might not impair the effectiveness of the product, this discoloration did not give the product the proper consumer appeal. The company began experimenting to solve this problem. Various colored glass bottles were used, but none of them proved entirely satisfactory. The solution was a coated bottle, like the examples shown in the foreground of the photo. The coating conceals the contents and is itself a lush sun tan color which has eye and sales appeal when seen on counters and in window display. At the same time the company adopted the new coated bottles, they selected a new orange-colored plastic cap of urea in place of a former black closure. This change adds more color to the package. The label was changed slightly to give greater prominence to the word, "greaseless," an important quality of this sun tan preparation. The new coated bottles have proved a satisfactory answer and the company reports enthusiastic reception on the part of both dealers and users.

Credit: Bottle by Owens-Illinois Glass Co.; bottle coating by Coloroid Co., Inc.; urea plastic closure by Colt's Patent Fire Arms Mfg. Co.; package designed by Fred Grover.

DESIGN HISTORIES

Folding carton deluxe

More than a year ago, Richard Hudnut, forewarned by foreign affiliates about what happens to luxury packaging in wartime, began a program of simplification and standardization. The bottles and fibre talc containers for the company's leading lines are now all similar in shape and design, yet the package for each scent is distinctive due to the treatment of labels, color of closures, etc. Further variety and interest have been added to these standardized containers by the many different ways the company has presented them in various box and carton combinations. Latest of these presentations is the display gift package called "Fragrance Favorites," comprising a sextet—three miniature bottles of toilet water and three miniature containers of matching talcum powder. All six are housed in a specially designed die-cut folding carton. When opened, the three containers of talcum powder swing forward on a die-cut, scored card and form a forward easel arrangement which gives ballast and turns the package into an attractive counter display piece. The lid adds a colorful background when folded behind the toilet water bottles which rest in a die-cut platform. When the unit is closed, the talcum powder containers fold back into the carton and the lid flap fits down behind the die-cut front panel, making an attractive gift package unit. The colors of the carton—soft yellow, pink, violet—blend with the label colors on the containers. This unit shows once again the attractive and unusual effects that may be achieved by the use of folding cartons as well as an interesting way to display a standard line of containers. It is offered as a hostess or week-end gift or a handy three-in-one for college girls.

Less than meets the eye

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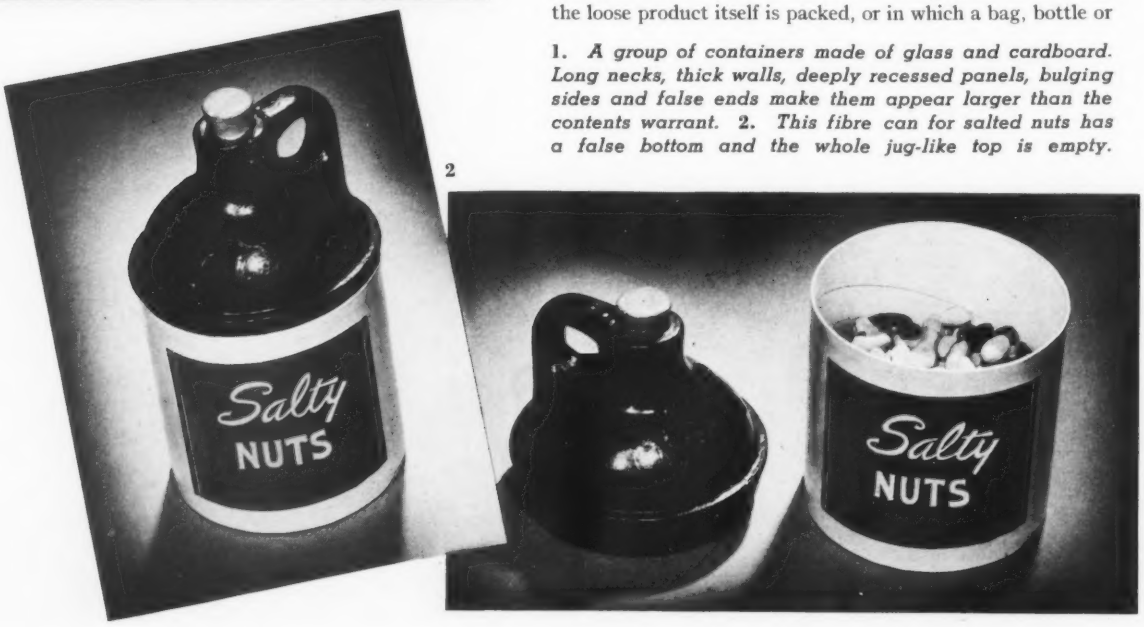
That a simple thing like a package may give aid to the enemy in times like these appears at first glance an extravagant statement, but upon analysis, the statement can be borne out by definite facts. A package may waste materials, manpower, shipping space, fuel oil, tires, warehouse space and transportation. The more America wastes, the greater the benefit to her enemies. Wasteful packaging practices serve to aid the enemy just as much as other wasteful practices.

That Americans design packages with deliberate intent to be wasteful is, of course, absurd. Packages are designed to attract consumers and to make profits for the producer. For a great many years, it has been pretty generally conceded that functional, attractive packaging is good packaging and goes hand-in-hand with good business practice. But there are always exceptions to this rule. Unfortunately, there are packages today which violate many of the principles of good packaging and as a result deceive the consumer about the product and in wartime are so wasteful of certain materials and services that their continuance might act unfavorably on the war effort.

Pictured on these pages are examples of packages that in one way or another represent wasteful methods and bad design for the purpose they have to serve. All of them tend to be deceptive so far as the consumer is concerned. The group as a whole demonstrates the more frequent offenses against good packaging—(1) over-sized containers, (2) double containers, (3) unnecessary false tops, bottoms and sides, (4) too thick walls, (5) unnecessary padding. From the standpoint of the packager of goods, they are effective in that they illustrate the typical bad examples which highlight errors and emphasize what to avoid. Like the detour sign in an excellent road, they show where the good ends and the bad begins.

The over-size box or carton is, perhaps, one of the worst offenders. These over-size containers may be those in which the loose product itself is packed, or in which a bag, bottle or



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1. A group of containers made of glass and cardboard. Long necks, thick walls, deeply recessed panels, bulging sides and false ends make them appear larger than the contents warrant. 2. This fibre can for salted nuts has a false bottom and the whole jug-like top is empty.

3. *Cartons that vary from about 25 per cent slack fill to more than 50 per cent. They waste space in storage, shipment, on the grocer's shelves and in the home cupboard.* 4. *Sad waste of an extremely critical material—tin—is represented by these cans for cleanser, adhesive tape and candy.* 5. *Something of a shock awaits the person who opens these cartons and finds the small packaged product within. The shoe polish carton in the center holds the bottle on the right—not the one on the left which is the right size for the carton.*

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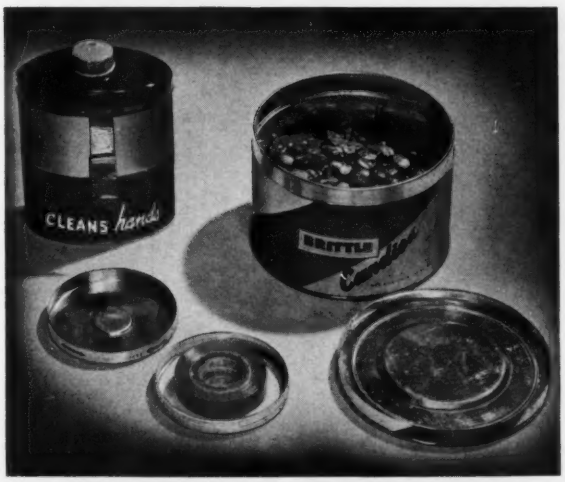
jar, filled with the product, is placed. Products like cereals, crackers, tacks, hairpins, noodles, spices, soap flakes, among other items, must be packed with a certain allowance for slack because after the product is packaged it has the tendency to shake or settle down and to occupy a smaller space. The government recognizes this fact and under the Food, Drug and Cosmetic Act, the average slack allowance for various types of product is taken into consideration. The slack allowed for any product, however, would be, under only the most unusual circumstances, 50 per cent of the capacity of the container. Such an allowance would probably be so rare that it would not enter into any general scheme at all. Yet a number of packaged products seen on the shelves of groceries, drug stores, hardware stores and others have had waste space in the carton as high as 80 per cent. In other words, the product occupied 20 per cent of the space of the carton. Paper is not short in this country now and, although there appears little reason to believe that it will be in the near future, such packaging is decidedly on the prodigal side at any time.

Some set-up boxes containing stationery have had from 25 to 75 per cent waste space; cartons of breakfast food, 25 to 33$^1/_3$ per cent; folding boxes of hairpins, 33$^1/_3$ to 70 per cent; small cartons of tacks, 33$^1/_3$ to 70 per cent; large cartons of steel wool, 25 to 33$^1/_3$ per cent; noodles and grated cheese for quick-to-prepare dishes, 33$^1/_3$ to 50 per cent; spices, 10 to 25 per cent; bars of soap in small cartons, 10 to 35 per cent; and powdered soap, 30 per cent. A box of 50 split rivets seen in a syndicate store could easily have fit into a third of the space in the carton.

When it is considered that many of these products have been shipped from a factory on one side of the continent to the market on the other, or from the Great Lakes to the Gulf of Mexico, the amount of valuable space occupied by air in freight cars and long-haul trucks is enormous. With transportation space at a premium, it is a rather high price to pay for shipping air. Granted that all the slack in the packages could not have been taken up, but if only a small portion of it could be, the saving in shipping space would probably be sufficient to warrant changes to more economical cartons and boxes or increases in the amount of product to make use of the larger containers compatible (*Continued on page 96*)



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PACKAGING PAGEANT

1 A 40 per cent reduction in package weight with consequent savings on shipping charges and a 50 per cent saving in handling time are the major economies effected by The Sands Mfg. Co., Cleveland, after adopting a corrugated shipping box for its gas heater for hot water tanks. It eliminates re-packing for delivery to the final consumer and carries the manufacturer's name right to the scene of the installation. The box has an overall color linen pattern with identification copy and trade mark printed in contrasting colors. It is fastened with metal staples. Box made by The Hinde & Dauch Paper Co.

2 Samson United Corp. of Rochester, N. Y., use a special box for the protection of their electric fan. The weight of the product is balanced within the box to prevent damage to the fins of the fan and the heavy motor is securely anchored by special construction of the box itself. Designed and made by Robert Gair Co., Inc.

3 A sifter case, completely done in paper, holds Cutex powder polish and replaces a metal case. The sifter top is reinforced paperboard, perforated and molded so that it twirls easily. About the size of a half dollar, the case is red and white and has the crisp, fresh appearance of gingham. The same design is used on a complete line of Cutex basic nail preparations.

4 Housewives will appreciate these tidy cartons for mushrooms. They assure her of a fresh product, free from the usual handling when mushrooms are sold in bulk. A transparent window affords complete visibility and the folding carton is shaped like the familiar, old-fashioned berry box. Because the mushrooms are package protected, they may be stacked in the vegetable and grocery stores in interesting window and counter displays. Carton by Sutherland Paper Co. Cellulose acetate sheeting by Celanese Celluloid Corp.

5 To save needed metals, Pond's "Lips" puts on a uniform. For the duration the lipstick appears in non-priority plastic, the top of soft green with ivory base and lettering. The push-up case has an in-curved foot for better grip and balance. The cap is debossed in ivory with brand and product identification.

6 With the addition of the giant size, Haskins Bros. Soap Co. of Omaha now market three sizes of their red, white and blue Spark granulated soap package. The company's slogan, "Saves 3 ways," is pointed up with a giant "3" on the front and back panels and repeated on the side panels together with an explanation of how the soap saves money, time and wear and tear on hands. Cartons have perforated tear-off corners for convenience in dispensing the soap. The cartons are so designed that no matter how they are stacked on shelves or in displays the trade name Spark is clearly visible. Cartons by Eggerss O'Flyng Co.

7 These new bottles for T. W. Samuels and Old Jordan Genuine Kentucky Straight Bourbon Whiskies, made by Country Distillers Products, Inc., have protective panels and large embossed type on the base which afford a unique decorative treatment. Panels for the labels are recessed at the top so that the labels cannot become rubbed or defaced during shipment or on the shelves of dealers. Labels on the T. W. Samuels are in black, red and ocher; on the Old Jordan are olive-green and red. Designed by Georges Wilmet. Bottles by Owens-Illinois Glass Co. Labels by Fuller Label & Box Co.

8 Babs Creations, Inc., pack 8-oz., 16-oz. and 32-oz. bottles of their bath oil in handy cardboard containers with metal top and bottom which can be re-used as a sewing or knitting box or a carry-all. The bottle has a metal primary closure over which a gold colored wooden ball top fits. The label is silk-screened in white, green and gold directly on the bottle. Two small pine cones are tied around the neck of the bottle with a green ribbon and make a pleasing decorative touch. Bottles by Swindell Bros. Cardboard container by Improved Mailing Case Co.

9 White Tie is Sally Victor's new essence for men. The bottle has a glazed paper label in striking black and white and a black, polished wooden closure that simulates a shining top hat. The perky white tie around the neck of the bottle is made of piqué and is fastened with a snapper. The bottle sits on a wooden base upon which the black and white striped paper cover rests. The glazed paper is smudge-proof. Bottle by Swindell Bros. Wooden closure by Paragon Woodturning Co., Inc.


UTEX
POLISH

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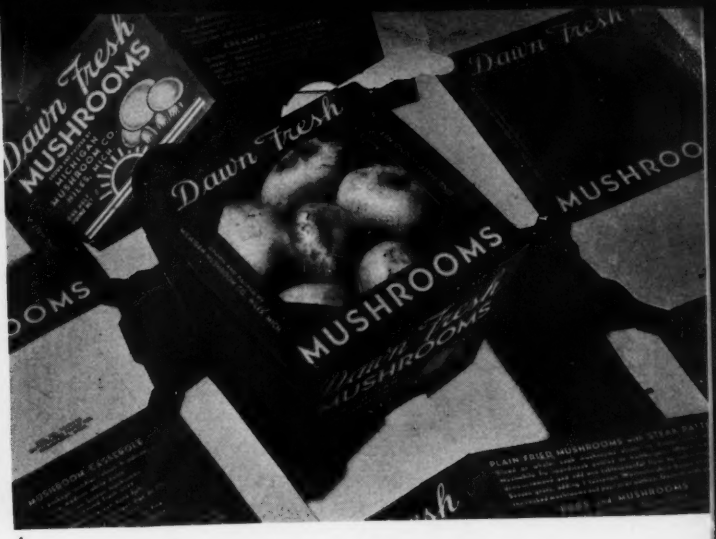
Dawn Fresh
MUSHROOMS
Dawn Fresh
MUSHROOMS
Dawn Fresh
MUSHROO

4


Pond's "LIPS
STAG-LINE
10¢
RASCAL
RED

5


SPARK
SPARK
SPARK
NEW-PROCESS GRANULATED SOAP
Saves 3 Ways
SAVES TIME—MONEY—HANDS
IN THE KITCHEN—IN THE LAUNDRY

6


W. Samuels
Kentucky Straight
Bourbon Whisky
OLD JORDAN
Kentucky Straight
Bourton Whisky
BOTTLED IN BOND

7


WOOD NYMPH
PINE

8


WHITE TIE
WHITE TIE

9

The final tableau from the "Sweets in Style" show staged by the Loft Corp. for all its employees.

It pays to advertise to your own employees

*by George Frederick**

Properly designed packages can help to revitalize a business. Instances are common enough in which a combination of circumstances has torn down the prestige and consumer acceptance of a once successful business and undermined organization morale. About a year ago, the Loft Candy Corp. was confronted with this situation. Here was a company, founded 70 years ago, which had built up an enviable reputation for high quality merchandise at fair prices—a combination which usually wins consumer acceptance. The Loft name had been recognized and the growth of the company was extraordinary over a period of 60 years. Because of organization changes, which injected new methods and policies, the product changed and the morale of the employees was at low ebb. The name Loft became synonymous with lower-priced candy and consequently the company lost a great deal of the prestige which it had enjoyed for at least half a century.

How to rebuild the morale of this organization, how to regain its waning prestige as well as attract new customers, in as short a time as possible and in the most practical way, seemed a tremendous undertaking. This was a challenge to all the ingenuity and creative ideas of those in the company who knew it could be done with the right formula.

A thorough study of the complete line indicated that it needed simplification. The recognized leaders had to be kept and improved; the laggards discontinued; some new and timely assortments added which were in accord with the finer quality treatment to be injected in order to win back lost patronage and to attract new customers to Loft. The first big step was a manufacturing reorganization. This was accomplished with greater ease than was contemplated, because the company did have skilled candy makers and a very well-equipped factory which could adjust itself under proper direction.

The next step was to standardize the size of the boxes and redesign them for increased eye and appetite appeal. Entirely new packages also had to be created for the new assortments being added to the line.

A standardized color combination of a coral candy stripe as a background with a medium blue for lettering and other decorative treatments was adopted for the "Sweet of the Week," a weekly special. This theme was used on boxes, signs, posters, displays, inserts and other promotional material to identify the product and re-establish the name Loft with the help of a well-planned merchandising program at the point of sale. All "Sweet of the Week" specials were designed with the coral candy stripe as a motif. They were always the same size and were uniform in treatment. Customers could instantly identify these as the special weekly feature. Loft received a tremendous response to this type of merchandising and consequently was better able to deter-

* Vice-president, Loft Candy Corp.

1. *Adaptation of weekly special, renamed Sweet of the Week, the candy stripe of which was the basis of the general Loft design and color motif.* 2. *Taking a tip from the play, Life with Father, the old style Family Favorites were redesigned, using the basic candy stripe color and a medium blue.* 3. *Old Miniature Chocolate box was renamed Little Aristocrats and an entirely new assortment and differently shaped box used.* 4. *Old summer assortments were condensed into one new, completely redesigned box shown on right.* 5. *Gay and pleasing with its sea-like scallop border is the new Salt Water Taffy on right, a redesign of the one on the left.*

mine what items were popular and what were not. This information was used to build the permanent items in the line.

Attention was next turned to redesigning the packages for the items which were adopted for the new simplified and improved Loft merchandise plan. This involved considerable preliminary planning to determine how to reduce the number of sizes and styles of packages to a minimum, thereby simplifying not only the production of the boxes, but also the storing and packing of merchandise.

After a very thorough analysis and by the process of elimination, the number of packages in the line was reduced from about 150 to 40 fast-selling, streamlined items. By doing this, standardization of shipping cartons, wax paper, wrapping paper, string, dies and anything else necessary to complete the packages was possible. The biggest savings were in shipping cartons in which the reduction in number of sizes was from 40 to 15.

The new line speeded up the over-the-counter sales, because the customer was less confused when there were fewer items to choose from. Sales people, too, welcomed the new policy because with the larger line they had been carrying many of the slow-movers often became stale on the shelves.

The plan of streamlining and dressing up the line had a very definite effect on the consumer acceptance of the Loft name. The new and attractive packages emphasized quality and contributed to the restoration of Loft prestige.

As these new packages were created and marketed the company decided that it was vitally important to impress on its own employees, especially the store manager and sales people, the fact that there was really something *new* at Loft. In the past, whenever a new box or new assortment was introduced, a simple, poorly reproduced mimeographed announcement was sent to the stores. At no time was anything done actually to sell the employees on the new item. To do this quickly and effectively, it was decided to go "all out" in preparing a dignified presentation to introduce each

new package and group of holiday boxes. By going "all out," Loft meant sparing no expense from the standpoint of type setting, fine, deckle-edge paper, art work, photography, plastic binding and hours of costly editing to make it a real de luxe presentation.

One of the major accomplishments was the introduction of a new line of miniatures called "Little Aristocats." To introduce this, Loft used a brochure with a diagonal blue band and an embossed gold crest on the cover, with a personal message and photograph of the package inserted. The copy stressed the new variety of delicious centers, the new chocolate coating and the fact that here at last was a box of miniature chocolates to challenge the competition of others in the business. It also gave employees some good, sound, reason-why selling facts which they could use to convince customers that Loft was proud to present this outstanding box of candy. In this particular box of candies, costs were completely ignored. To afford the proper margin of profit, the retail price of this package should have been approximately 25 per cent higher than the introductory price. However, this was to be the Loft "prestige box" which would set an example for the "new, finer quality" Loft candies. In addition to the employee presentation, sales meetings were held in all districts and the response of the employees to this decided change was more than encouraging.

Since a large percentage of the total year's volume occurs in the month of December, it was important that the Christmas line of candies should be as fine as possible. As a preliminary to presenting the seasonal line, an even more elaborate sales employee brochure was prepared and each store manager received a photographic booklet containing 28, 8 by 10-in. photographs of the holiday merchandise, along with a personal message hand-set in type and printed on antique paper. To make it even more impressive, this presentation was sent in a gift type box. Again, the response from the employees proved that directors of the company were on the right track in their effort to sell Loft.

Next came the Valentine's Day Candies. The company dramatized this promotion by featuring the fact that Dan Cupid had appointed the Loft Candy Corp. as his exclusive agents for "Love Insurance." The Valentine package is similar to the one used for Christmas and has an attractive photographic booklet with a personal message.

There is a certain amount of natural enthusiasm on big holidays among the employees to make it an ideal time to stimulate morale. These attractive presentations, each one especially designed for each holiday with photographs of the new items and a special sales message and personal letter, gave the employees the feeling that the corporation considered them a real part of the success of putting across the promotion.

For Easter there was produced something rather unusual, called the "Sweets in Style" show. It was an elaborate affair, staged in the Grand Ballroom of the Hotel Astor and attended by over 300 store managers, sales people and executives. After a buffet supper, each member of the audience was given a program, "fashion show type," describing the new packages to be presented. To the accompaniment of an organ featuring such music as the "Easter Parade" and other appropriate tunes, each new item was presented in a well-lighted and decorated setting. The curtains were pulled back by page girls and at the end of the program—the climax of all this new stylish array—the spotlight was turned on a Tyrolean cart filled with flowers and candy, with a Conover model standing by, dressed in a stylish outfit from Saks Fifth Ave. The enthusiasm of the employees after this Style Show was amazing. It was really something new to them. After they had seen the actual packages at the "Style Show," each store manager was sent an attractive hat box in a pastel design of the coral and blue. Enclosed in this unusual and timely hat box was a photographic booklet of the complete Easter line, together with a personal message extending the company's congratulations on the job they, individually, were doing.

The next important holiday was Mother's Day. Again a photographic booklet was used with a personal message, incorporating verses from Ann Taylor's classic poem, "My Mother," which stressed the fact that even though Mother's Day in the candy business was not what it once had been, candy was still the ideal gift for Mother on her day. The booklet was encased in a coral and blue candy stripe box with a pink carnation attached on the outside. The result gave Loft the biggest Mother's Day business in over 20 years.

Many candy companies have always had the feeling that there was not the actual demand for candy in the summer as in the cooler months of the year. (*Continued on page 98*)

6. ***Employee presentation for Mother's Day. Photographic booklet was used with a personal message.***
7. ***Employee presentation for Christmas. Booklet contains photographs of the holiday merchandise.***

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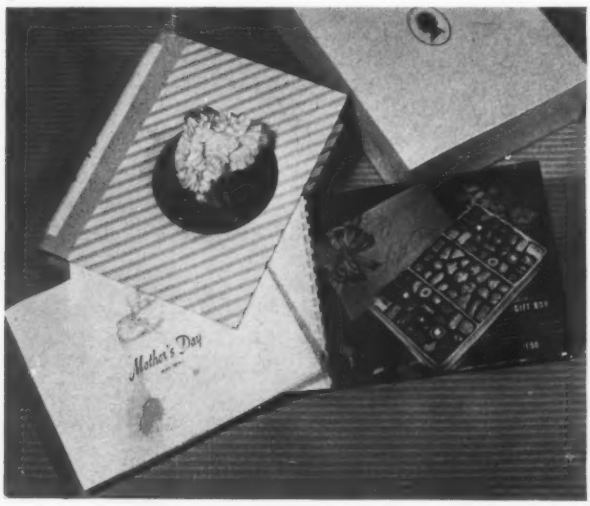

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Dehydrated mashed potatoes packed in 10-lb., friction top tins, two to a wire-bound wooden case, for the Army. Tetley's Jif-e soups in double-walled, heat-sealed M. S. T. cellophane bags with paper labels between walls.

Dehydrated food to the front

by Walter S. Ross

In this war, as in the last, the dehydrating industry has been called on to make large contributions to the feeding of our armed forces and our allies. The reason—dehydrating reduces bulk in a ratio of about 10 to 1, while retaining the nutritive, vitamin and taste features of foods to great degree. Thus one ship can do the work of 4, 8 or 10 (depending on the type of food being shipped) when it is carrying dehydrated foods as against regular canned or fresh foods. In present conditions of shipping shortage, this saving in space is invaluable to the United Nations. Consequently, the dehydrating industry which never made any perceptible inroads in peacetime consumer markets has suddenly become the most important food processor under war conditions. The government has given the necessary priorities for plant building and/or expansion. The result is that many of the large food companies are buying or building pilot plants, taking on war contracts and actually producing.

At present, the two biggest consumers or buyers of dehydrated products are (1) Lend-Lease and (2) the Army and Navy. Their needs are not parallel and their specifications for packaging vary somewhat. However, for export shipment, Lend-Lease usually refers to the Army Q.M.C. specifications for the same products. It should be noted here that dehydrating is basically another food process method. There is no over-all unanimity about dehydrated products or their packaging requirements. To quote L. K. Harper, President of the National Dehydraters Assn.: "Dehydrated foods may be divided quite simply into three classes according to the degree of difficulty one encounters in packaging, storing and keeping them.

"Examples of products reasonably easy to package are potatoes, pea soup and potato soup—all big sellers. More difficult are bean soup, cranberries, beans, onions and parsley —good sellers also. Hard-to-pack foods include cabbage, carrots, tomatoes, bananas, dried whole milk, vegetable and chicken soup."

Each group of products represents a different packaging problem. "Containers for bulk packaging of eggs and milk," states Mr. Harper, "appear standardized as follows: 200-lb. barrels made of soft wood (fir, elm, poplar, soft maple, etc.) with double liner of parchment, waxed 45-lb. wax in outer layer, 15-lb. on inner layer, smaller inner liner, slack filled. Also used for eggs and milk are 4- to 5-oz. individual packages of 'thermophane,' a laminated cellophane bag with thermoplastic seal which is placed in a cardboard carton. These are packed 24 to 48 in a wooden case.

"For carrots, cabbages and tomato products, either No. 10 or 5-gal. tins, vacuum packed or packed with an inert gas like nitrogen or carbon dioxide will be used.

"Pea and bean soups are not very hygroscopic and can be packed in ordinary wax-coated paper cartons. If the cartons are tightly sealed, no liner or bag is needed, but when the products are intended for use by the Army, the cartons should be packed in wooden boxes. Potatoes and cranberries are easy to keep and can be packed in cellophane-backed paper bags, heat sealed. It should be remembered, however, that tin cans must be used for all products when long storage-life is desired. Also, insect infestation will be a problem, particularly in tropical countries, over even short periods of two or three months.

"Because of the rough handling to which packages are subjected in the Army and Navy, wooden cases are advisable even with tins and all bags should be inserted in cartons to protect them against puncture. While the Army is interested in many small individual-type food packages, these will not be used for dehydrated foods so much as for the regular individual rations, which are concentrated foods or dried foods."

Through the Agricultural Marketing Administration, which does the specifying and buying for Lend-Lease, such products as dried eggs, dried milk and some dried soups have achieved a very greatly increased distribution. Some idea of the expansion in the dehydrated egg industry may be gained by examining the figures: Production was 10 million lb. in 1939 and approximately 185 million lb. in 1942. Dehydrated milk has increased from whole milk, $24^1/_2$ million lb. to $43^1/_2$ million lb. in the last two years and skim milk, 268 million lb. to 393 million lb. during the same period. There are about 275 plants producing dehydrated milk, about 80 plants producing dehydrated vegetables and recently 65 plants have entered the egg dehydrating field. These form

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1. Whole milk product "Klim" is packed under pressure in tin with scored band opening. Shelf life, 3 to 5 years. 2. Container holds 5-oz. of eggs equal to one dozen fresh eggs. Dehydrated eggs are packed in this and similar cartons for Lend - Lease shipments to Great Britain.

no particular geographic pattern except that a good portion of the vegetable dehydrating industry seems to be concentrated on the Pacific Coast.

It is expected that the total output of dehydrated vegetables in 1942 will amount to 50,000,000 lb., of which about 95 per cent has already been spoken for by one of the government services or by Lend-Lease. It is anticipated that this figure will double to an estimated 100 million lb. in 1943.

Dehydrated eggs and milk are packaged in two ways for Lend-Lease—(1) wooden barrels with parchment liners and (2) 5-oz. paper cartons. Specifications for the 5-oz. package (Type FSC-DE-1) are available from the U. S. Dept. of Agriculture, Federal Surplus Commodities Corp., Washington, D. C. Procedure for Lend-Lease purchasing is as follows: Announcements are sent out to commercial dehydrators and packagers and bids are accepted for spot or future delivery. Dehydrating and packaging are usually done in separate plants under the direction of the AMA. All container testing is done for the AMA at the Forest Products Laboratories, Madison, Wis.

Because of the rapid expansion of the industry and the small capacity of machine builders, the government has devoted special attention to converting existing facilities to the dehydrating of fruit, vegetables, etc. Two industries which have been considered for conversion are the coconut drying industry and the tobacco curing and cigarette manufacturing industries. Of course, proximity to the crop producing areas is of basic importance in selecting dehydrating plants. One coconut drying concern in the midwest has already converted its facilities to the dehydrating of potatoes for the Army. It may be expected that other manufacturers in the industry may follow suit because of their interest in this new market which offers so much present and potential volume.

Army purchase of 18 million pounds of seven dehydrated vegetables this year points to large-scale development of the dehydrated food industry on what may prove to be a permanent basis. Army testing and specifying of dehydrated foods is done through the Q.M. Dept. in Chicago, under the direction of Col. Roland A. Isker. The Army product and package testing also is done at the Subsistence Laboratories in the Chicago Q.M.C. Depot. Specifications are constantly being revised whenever feasible with a special eye toward substitute materials to replace the ever scarcer tin and blackplate. However, at the present time, practically all Army packaging is done either in tin or blackplate. Usually 5-lb., 10-lb. or 5-gal. cans are used. Aside from the basic vegetables which are being used in great quantity, the Army has contracted for dehydrated apples and is now experimenting with dehydrated beef. Army packaging, while rigid in its requirements, is not confined to metal where other materials can be used. For instance, the specifications on dried beets allow the following types of packages to be used: Fibre drums with kraft asphalt barrier board linings; black metal cans with backed-on sanitary lacquers; laminated paper base, sealed bags—weatherproof solid fibre boxes; folding carton with inner liner of heat sealing—moisture-vapor proof cellophane of MSAT type on waxed glassine using outer wrapper of the same material or wrapped in kraft and taped in a thermoplastic wax.

Some of the basic requirements for dehydrated food packages were summarized by Major Charles Herman of the Quartermaster Corps Subsistence Research Laboratory, Chicago, at a recent meeting. These are: (1) The package must be used under strenuous transportation circumstances. (2) The food must stand up under gas attack, high humidity, extreme high or low temperature. (3) Package must be protected against insect infestation, etc. (4) The package must have the ability of withstanding the transfer of the food contained in such package from low temperatures and low humidity areas to high temperatures and high humidity areas.

Major Herman emphasized that while many types of films and boards seemed to respond favorably under laboratory conditions, they did not measure up to requirements in actual commercial production. This gives support to the fact that what is needed is a set of specifications which would permit concentration upon the main problem, i.e., to determine the relative moisture-vapor transferr esistance of various types of materials and similar experience in connection with the materials after they are converted into packages.

Labeling for Lend-Lease has been confined to the standard USA identification, designed by Walt Disney, as shown on the egg carton. The name of the vendor may be printed on the carton, but objections of British merchants and packers to the possible inroads being made into their own markets, which

they are now unable to supply, by U. S. branded products, has caused this identification blackout on American packages. The packer's name may be printed on some packages, but they may carry no further promotional material.

Since there is little direct contact between the individual soldier and the bulk package of dehydrated foods, there would seem to be very little reason for the packager to attempt to achieve branded identity. With the bulk of dehydrated foods going into tin cans for the government, the industry has shown very little initiative in developing new types of packages. Most dehydrators are spending all of their time worrying about increasing their production and none of it, with few exceptions, on replacing their tin or black plate packages. To quote one of the more progressive dehydrators, "At this time the goods we are shipping for federal government requirements are being packed in tin for the reason that it is required that the pack be in not only moisture-proof containers but that they be capable of retaining such inert gases as nitrogen and CO_2. So far as we know, there are not types of fibre cartons which meet this latter requirement, notwithstanding the fact that some of them are laminated with cellophane or other moisture-repellent substance. The government specifications are made as they are because the period of storage and the climatic conditions dehydrated foods may have to endure are decidedly indeterminate.

"Civilian goods do not require the same treatment since no one user of our kind of products buys in sufficiently large quantities so that storage is a problem. Thus, for our flake materials, such as onion and garlic for our normal civilian trade requirements, we pack in a heat-sealed, waxed paper bag enclosed in a standard shipping carton of corrugated board; all seams of the outer package are carefully sealed over with wide, gummed tape not only as an added measure of strength in the shipping package but as an added measure of moisture protection to some degree. Our garlic and onion powders, on the other hand, even for civilian consumption up to the present, have been packed in tin. Our standard size package is a 5-gal. can which contains (depending upon the material) 25 lb. or 30 lb. of powder. This can has a triple-seal, friction closure in the head. Since we do not pack for retail trade, we do not have any smaller package than the 25-lb. or 30-lb. can. For shipping purposes we pack two cans of this kind in a standard fibre board case, stapled at the bottom and glue-sealed at the top. This has made a very satisfactory combination and one which we have used for a great many years.

"Our chili powder and other chili preparations are packed mainly in wood barrels with an inner liner of heavy moisture-proof, creped paper. These barrels, when packed, weigh, depending upon the material, 200 to 250 lb. net. For smaller quantity orders, we have in the past two years been using a round fibre drum with the metal base and fibre head. This, for 50- and 100-lb. packages has proven very satisfactory since the fibre is treated in such manner as to be both moisture- and oil-proof. They have stood up well in shipment and generally have proven quite a satisfactory package. We pack three smaller sizes in chili—5-lb., 30-oz. and 1-lb. For these packages we are presently using a lacquered, black iron can, but it is questionable, of course, how long we shall be able to make use of metal of any kind. We have been experimenting to some degree with some of the more recently developed laminated fibre packages, but so far have not come to any very definite conclusions." (*Continued on page 102*)

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3. Dehydrated milk and eggs are used in ready-mixed preparations. 4. Cranberry flakes, enough to make 12 lbs. of cranberry sauce, are packed in a small tin. Dehydrated apples come in simple, colored carton. Dehydrated apple sauce is packed in printed, M. S. T. cellophane bags, heat-sealed. 5. A drum dehydrator at work in one of the country's leading plants.

SARDIK, INC.

5

Out of tin into paper

When it became apparent that the war would force many changes in the kinds of material available for packaging foods, laboratories of the Glidden Co. began to speed up the incubation of new ideas. Glidden executives, headed by Adrian D. Joyce, president of the company, asked and received intensive cooperation by paper manufacturers, glass manufacturers and other organizations having a major stake in the packaging business. This nationally known firm, with headquarters in Cleveland, is best known as the producer of Glidden paints, varnishes and lacquers. It also operates extensively in the food business. Its packaged items include the widely distributed Durkee Famous Foods.

Glidden's new packaging problems have been as diversified as its production. At least 10 of its 26 laboratories have been experimenting with paper paint containers, under the direction of W. J. O'Brien, vice-president. Experimenting also has been done with light-weight glass paint cans, with processed paper screw tops and with wood containers

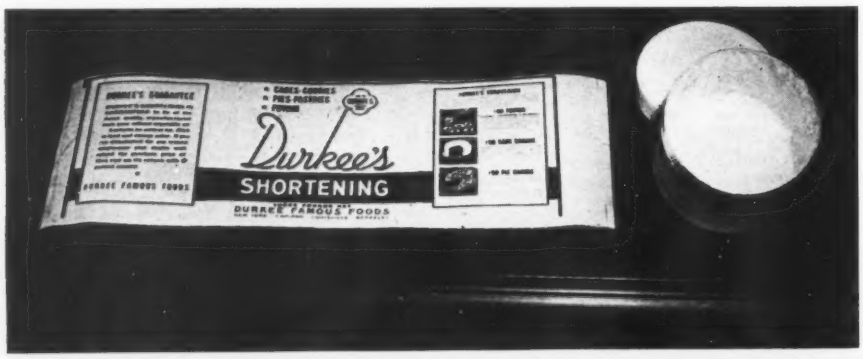
In the midst of all this experimental activity, one section of the Glidden organization even found time to experiment with a possible solution to the problem of substitute packaging for the fashionable female leg. The product evolved is a kind of bottled liquid hosiery. When applied properly, it resembles a sun-tan shade of sheer silk stockings—that stockinged look without silk, rayon, nylon, cotton or linen, and with which the most confirmed nudist could hardly find fault. The modern Miss or Mrs. may remove these threadless stockings by a vigorous application of soap and water, but they are proof against snags and showers alike.

In the Glidden food divisions, the most pressing packaging problems were related to shortening, fresh (undried) cocoanut and spices. All three have been met with newly designed packages that may be adopted permanently, if they live up to expectations and not merely used on a temporary basis for the duration of the war. The three new package styles are: For shortening—cardboard carton, lined with triple-sealed cellophane. For fresh cocoanut—waxed paper bag inside paperboard carton. Dried cocoanut will continue to be packaged in cellophane bags. For spices—laminated paperboard body with top and bottom stamped from reclaimed scrap tinplate; inside coating treatment of paperboard. A spice box entirely fabricated of paper is also being carefully studied.

Each solution is the fruit of countless experiments by the trial and error method and countless individual tests of the experimental packages, each filled with the product for which it was designed. "Incubators," duplicating various atmospheric conditions that have to be met eventually in storage, handling and retailing, were the test media. In each case the solution was more drastic than was at first anticipated. Glidden executives, however, said necessity has mothered improvement along with its twin sister, invention. Pre-war packaging styles are now dated as "old stuff," and the packaging art has moved into new and attractive territory.

Perhaps the most drastic change that Glidden is making in packaging materials is adoption of the new cardboard carton for shortening. As most manufacturers know, the War Production Board won't allow shortening to be packed in tins after Oct. 31 and will not permit cellophane to be used for secondary packaging—to protect the outside of another package—but it's permissible to use cellophane for primary packaging of food products. The cellophane liner for the new shortening carton comes under the head of primary packaging. Without it, the paper carton would begin to soak up fat a few seconds after packaging.

N. Betzold, general sales manager of the package products



Above. Detail of new shortening can and art layout of label. Below. Old and new containers for shredded cocoanut and shortening — the war model which is made of paper is on the right.

(*Page 58*)

Spice containers in 4-oz. and 16-oz. sizes. The former tin pepper containers are shown on the left in each case.

division, Durkee Famous Foods, believes the new carton has three outstanding advantages: Weight—The paper carton is half the weight of the tin (tinplate) can it replaces and only one-third the weight of an ordinary glass container of the same capacity. Disposability—Burn the new carton in the furnace or throw it out with the garbage. This feature will appeal to apartment dwellers, particularly, who may be irked by the tin can disposal problem. Sanitation—The new carton is sealed against "breathing," and is believed to be strictly sanitary.

A fourth advantage is good news to the War Production Board and those food packagers who may be looking for the same kind of answer to their prayers for new material not vital to the war effort. No metal is required. The cardboard cylinder is easily fabricated. It's the same size at the base as the tin can previously used, so it can be adopted without provoking a drastic change in package filling machinery. The cellophane liner has a top that seals the lid air tight. The liner is triple-sealed along a base seam to prevent any possibility of seepage or wicking. Without careful sealing, it was explained, the carton would "breathe," that is, it would permit air and moisture to enter. Measures to prevent breathing of shortening containers are considered equally as important as those to prevent leakage, stain or wicking. The new cardboard cellophane-lined carton is being made in 1- and 3-lb. sizes, only. It has been adopted by Durkee Famous Foods and by other brands owned by Glidden.

To conserve the moisture in shredded cocoanut, Durkee has been packaging this specialty in hermetically sealed tin cans. The war changed that. However, one feature remains unchanged. The new package, like the pre-war model, will be confined to the 4-oz. size. That's considered about right for one recipe by the average housewife. A larger package would be wasteful in most homes because it would dry out before being consumed. If packaged in a size above four ounces, experience has demonstrated, "fresh" cocoanut is left over—the extra amount is too much to keep satisfactorily and too much to throw away. Dry shredded cocoanut will continue to be packaged in the larger sizes, 8- and 16-oz. cellophane bags.

As becomes a member of the aristocracy of American condiments, Durkee spices have been accustomed to dwell in fancy tin containers. The company feels that the best packaging is just good enough. The Durkee spice can won a top award last September in the Spice Mills Fifth National Packaging Show in Philadelphia. Its labeling is attractive and considered excellent for merchandising purposes. Its top is a sliding arrangement for easy sifting, pouring or closing, built in three pieces.

Now that tin containers are forbidden to the spice packaging trade, and now that all spice containers for home use have to meet a war standard—the 1- and $\frac{1}{2}$-oz. sizes—Glidden decided to see what could be done in the way of improving upon paper. The laminated paper body of the new spice can has an inside coating, whose exact nature is a trade secret, designed to seal spice flavor and aroma tightly inside the package and to prevent possible wicking of aromatic oils that may, even with extremely light wicking, discolor a cardboard package.

One of the most potent discoloring agents for cardboard packages is the clove. Oil of clove seems to have great powers of penetration. It turns the package a dusty pink. A paper package that's satisfactory for cloves has been a tough problem, but not an impossible one. The new spice box, therefore, was not built in a day.

One innovation in spice can construction that Glidden executives hope will not outlast the war is the-one piece top. It is now being fabricated from waste metal left over from larger stampings. Both the three-piece, sliding top and the two-piece, pry-open lid are out for the duration of the war—they require too much metal. In the war model one-piece spice can top, the sifter holes are lightly stamped on, so that they may be opened easily (*Continued on page 96*)

View showing part of the Glidden Cleveland laboratory where experiments with paper containers for a wide variety of the Company's products have been carried on.

These are among the different types of cans used for experimental lining with silver.

Silver linings

*by Adolph Bregman**

If anyone were asked the question, on a quiz program for example, "What is the most generally useful metal product made today?" he would in all probability refuse to answer. The question is unanswerable; there are too many products and too many uses.

And yet, there is one metal product which might, if any were permitted to do so, present its claim for the title of The Most Generally Useful; a product which is used in every imaginable place, at all times, under all circumstances. It cuts across every industry and every human activity—the metal container. It is apparent even to the least literate that of all man's accessories, probably the most nearly universal is the tin can. Because of the shortage of tin, the government has strictly limited its uses and we are now faced with the necessity of finding a new lining material for metallic containers. New materials must be found for two reasons: (1) to provide better resistance to a large number of special, contained products; (2) to make up for the present shortage of tin which has already spread even to food containers.

In answer to this demand, one metal is available which satisfies both requirements—silver, because (1) it is resistant to many products which attack tin and (2) it is not under priority control.

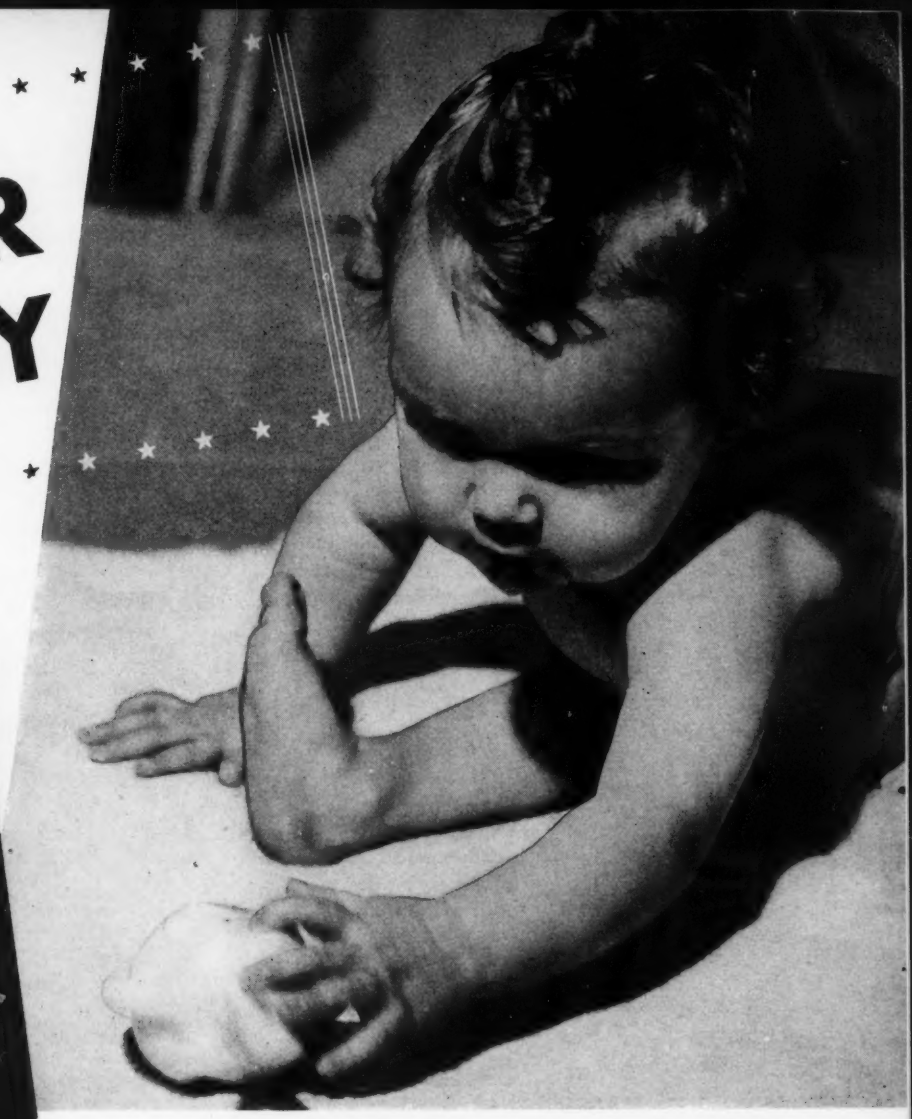
*Consulting Engineer.

Linings and coatings

Metallic containers may be considered in three groups: (1) non-returnable, (2) returnable and (3) those which because of their novelty or beauty have sales appeal separate from and in addition to the sales appeal of the product enclosed. Of these, only the first is short lived and its original cost must be the very lowest possible.

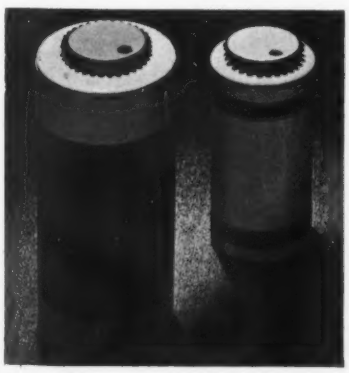
Silver is resistant to alkalies, organic acids and certain concentrations of hydrochloric and other mineral acids. Its resistance is not dependent upon a protective oxide film, but is inherent in the metal itself. Most organic silver salts are free from color. The silver lining, therefore, eliminates objectionable discoloration of the contents, even though traces of the silver may be dissolved. For that reason silver finds wide use as a lining for a variety of permanently installed chemical equipment, such as stills, condensers, autoclaves, tanks, trays, piping, heating coils, reaction vessels, etc. Among the specific products to which silver is so resistant as to be useful for their manufacturing and handling equipment are acetic, lactic,

WAR BABY



AN essential part of talcum and tooth powder containers is the familiar screw type sprinkler top. However, these seemed doomed when tin curtailment orders were issued by WPB. Burt engineers came to the rescue with a paper top which is accurately die cut and joined to form a perfect turntable sifter top. The can on which it is placed also uses no metal. This is no mere substitution, but an essential replacement. It is a creation out of paper that does the same job that metal used to perform, while using absolutely no metal or critical materials.

This is another of Burt's answers to the problem of "Keep 'em Rolling" in packaging. Resourcefulness and ingenuity, bywords of Burt packaging service, are constantly at work for all of Burt customers at all times. Other examples of Burt resourcefulness will appear in subsequent issues of Modern Packaging.



F. N. BURT COMPANY, INC.

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GEORGIA - CHICAGO - CLEVELAND - CINCINNATI - NEW ORLEANS
MEMPHIS - MINNEAPOLIS - KANSAS CITY
DANVILLE, CALIFORNIA (Near San Francisco)
A. G. Spilker, P. O. Box 126, Telephone: Danville 27
LOS ANGELES 1709 West 8th St.—Telephone: EXposition 0178
CANADIAN DIVISION: Dominion Paper Box Company, Ltd.
469-483 King Street, West, Toronto 2, Canada

formic and carbolic acid; acetate rayon; vinegar; dyestuffs; sodium and potassium hydroxide; ink; tanning chemicals; essential oils; perfume essences.

It is also bactericidal and may consequently be used in contact with food and may even be taken into the body in minute quantities without danger. Obviously, therefore, silver is eminently fit for the lining of containers of these products.

On the debit side, we find only one important objection to the use of silver for container linings—its cost. Aside from the intrinsic value of the metal, it is well known that in the production of silver-coated sheets by rolling, the cost of manufacture rises as the thickness decreases due to the additional work necessary for reduction in thickness, in rolling, annealing, etc. There is, however, a process in which the curve of costs turns in the other direction—electrodeposition—in which the thinner coatings are less expensive to produce than the thicker coatings. Moreover, electrodeposited silver is of the highest obtainable purity, making it preeminently suitable for chemical contacts in which impurities, even in minute quantities, may have deleterious effects upon the contents. Electrodeposits of silver can be applied from the very thinnest practical deposits (0.0001 in.) up to very heavy thicknesses (0.05 in.) if necessary with equal facility under proper operating conditions and control. From the standpoint of ease and low cost of manufacture, the method of application best suited to thin container linings of silver is electrodeposition. The operating problems involved in this use of silver may, therefore, be reduced to the following questions: (1) What is the best method of electrodeposition for this purpose—the solutions to use and the operating conditions? (2) Shall the work be done by preplating sheet and then forming into containers, or by plating the fabricated containers?

Methods

Silver has been electrodeposited for over 100 years. Its peculiarities are as well known as those of any other metal. The solutions and working conditions are well standardized. Detailed descriptions of these methods are frequent in literature. Typical solutions and operating conditions used in silver plating will be found in "Silver in Industry" edited by L. Addicks, for instance.

It is of more than ordinary interest to note that in the work of the Silver Producers' Research Project, smooth adherent deposits of silver were produced at a current density as high as 165 amperes per sq. ft. (17.9 amp./dm.^{2}) under laboratory conditions and applied to the rapid deposition of silver for can linings. In later experiments carried out at higher temperatures, current densities as high as 200 amperes per sq. ft. were used successfully. This work indicates the possibility of high-speed methods for the production of silver-plated products.

Cost of silver plating

The cost of silver plating will depend upon the following factors: (1) the condition of the basis metal—surface finish, freedom from impurities, pits, etc.; (2) the finishes desired—high polish or unpolished matte finish, etc.; (3) the volume of output; (4) the mechanical equipment for handling the work—racks; full-automatic or semi-automatic cleaning, rinsing, plating, drying, etc.; (5) the weight of the silver deposited—cost, approximately 28 cents per sq. ft. for 0.001-in. thickness. From this should be deducted the cost of the material which it replaces such as nickel at 2.5 cents for the same thickness, copper at 1 cent, tin at 2.5 cents, etc.

An ever-present problem in the manufacture of the silver-lined metal container is, of course, the imperviousness or freedom from porosity of the silver lining. It has been found that although sheets may be plated with a pore-free silver coating, the cans fabricated from the pre-coated sheet may be subject to rusting at the seams when tested (filled with water and left to stand for a few days). Investigation disclosed the fact that cracking occurred in the plate at the seams where the metal was bent back 180 deg. upon itself; also that the structure of the deposit was nodular at the ends where double seaming had taken place. Further work showed that burnishing the ends of the cylinder during and after plating effected considerable improvement. Cracking of plate due to nodular deposits, it was found, might be avoided by plating at a lower current density which would give smoother, brighter deposits.

Porosity in silver plated cans

The question of manufacture by pre-plating the sheet, followed by forming on or plating the fabricated container can be decided only after consideration of the specific item involved. No general rule can be laid down. The problems are clearly illustrated by specific examples of experiments carried on by the Silver Producers' Research Project. One case[1] of silver lining involved a sanitary can for foodstuffs and high-grade beverages, lined with silver up to 0.0001 in. thick. The cost of the silver in this instance was about 1 cent for a 12-oz. can. The procedure was to plate a formed seamless body and a flat sheet separately, the ends being subsequently formed from the flat sheet. It was found that a copper deposit, 0.001 in. thick, covered by 0.0001 in. of silver provided a lining which prevented the exposure of the steel and protected the contents of the container even from the copper. Tests on this type of coated sheet with ferroxyl jell showed that the deposits were pore-free and the process of assembling the ends and body of the can after plating, eliminated the danger of entrapping cyanide in the crevices. These cans are now being tested with beer and a variety of fruit juices.

Returnable containers

In considering the use of silver for lining the one-trip container for ultimate consumers' use, the hurdle of the cost of the silver is very high. The cost of the present tin-lined "family" can is very small, being measurable in fractions of a cent. Silver, as stated above, may add about 1 cent to the cost of the can for metal alone, and it is felt on some hands[2] that because, on an equivalent coating weight basis, the silver coating on steel does not provide adequate rust prevention or corrosion resistance, consideration of silver for single-trip containers is not warranted.

There is no question about the factor of cost. Probably for general purposes the use of the silver for a lining would throw the cost of the container out of proportion to the total cost of the container plus the contents unless, of course, no other material is available, which is not an absolute impossibility in the near future. However, there are many special instances which would justify the use of an expensive lining, for example, foods of very high quality now packed in fancy decorative containers, such as baby foods and the like. For contents of this character, the silver lining may well be in order.

In another case, a returnable container, a barrel, was lined with 0.001 in. of silver to hold beverages whose flavors are highly sensitive to contamination by metals. The steel was plated before forming, to a thickness of 0.002 in. of copper, then given a nickel strike, then a silver strike and then plated

[1] Dornblatt, Lowe and Simon, The Monthly Review, A.E.S., August 1939.
[2] Containers by H. S. Van Vleet, Metals and Alloys, January 1942. pp. 76–77.

Worth looking into!

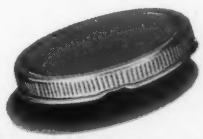
Now, more than ever, manufacturers are finding in Anchor Hocking glass a package that's a "natural." Plentiful glass is well worth looking into, not only because it's good business, but also because it helps the government conserve large quantities of steel, tin, tinplate and rubber.

Today, Anchor Hocking glass offers you many outstanding advantages which spring from a variety of new developments. In addition, Anchor Hocking provides, at no extra cost, the services of its experienced specialists in engineering and in biological and chemical research. These men know packaging from every angle. They are particularly important to new users of glass who seek thoughtful aid and counsel. They can help greatly in simplifying and expediting the change-over to glass.

Remember—Anchor Hocking makes containers *and* closures. And because they're made for each other, are available from a single source of supply, it pays you to get both in the Anchor Hocking complete package. If you wish them separately, your friendly Anchor Hocking packaging engineer will be happy to serve you.

Worth looking into! *The New Anchor Hocking Economy Jars*

These new economy jars, which are sealed with the Anchor Amerseal cap and are part of a complete line, are outstanding for mayonnaise, salad dressing, apple butter, olives, pickles, peanut butter, preserves and many other products. They cut packaging costs . . . are tough and light. . . inexpensive to ship . . . give impetus to sales through eye appeal . . . step up profits. Available in complete range of popular sizes. Samples on request.



The Anchor Amerseal Cap... Its equally spaced lugs engage under side of glass container lugs, draw cap down, compress liner in tight, even, *complete* contact with container finish. No thread matching as in screw caps. A quarter turn and it's off or on. Will not gum or freeze to container finish.

ANCHOR HOCKING

GLASS & CAPS

ANCHOR HOCKING GLASS CORPORATION • LANCASTER, OHIO

with 0.001 in. of silver. This procedure with proper cleaning, pickling, rinsing, etc., produced pore-free sheets and blanks. The barrel was then formed from two hemispherical shells, cut and pressed out of the plated steel stock, the two hemispheres being joined by a corrosion-resistant silver brazing alloy. A barrel of this type may well be competitive in price with aluminum or stainless steel.

In tests made at the National Bureau of Standards, no difficulty was found in forming the sheets so plated. It was also found possible to form sheets plated with silver alone—no copper or nickel undercoats—without injuring the deposit or causing it to strip, peel or otherwise separate from the base metal. In various tests, double-plated coatings about 0.003 in. thick were not perforated by press forming operations. For returnable containers, it was recommended that a thickness of not less than 0.001 in. of silver should be deposited and preferably 0.002 in. or 0.003 in.

Where it was necessary to silver braze, it was found advisable to use a layer of nickel between the copper and silver deposits to prevent the formation of a low-melting silver-copper eutectic and consequent blistering of the coating.

Drums and barrels can be also covered with silver by plating the body shell and the drum ends separately before their assembling.

Any forming that is done after plating should be limited to the lock-seam beading operation. The plated materials will remain intact throughout lock-seaming operations and this procedure will also prevent the inclusion of cyanides from the plating bath. The outside of the drum body may be maintained free of the silver plate by proper handling methods, masks, stop-offs, etc.

If possible, the container should be so designed that joining can be done without heat; but silver brazing, if necessary, may be accomplished, using induction heating which offers a practical solution for high production work, together with the use of a corrosion-resistant, low-temperature silver alloy as a solder.

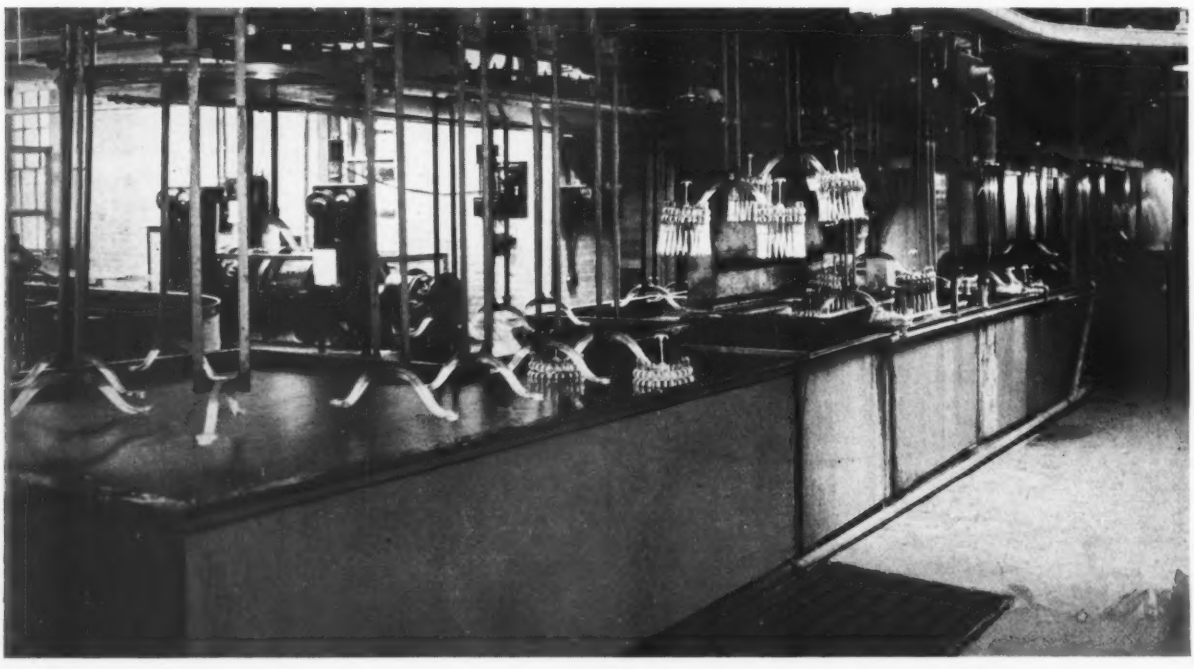
Another example which gave encouraging results was a $3^1/_2$-gal. pail for packaging chemicals. Pails, lined with 0.001 in. copper and 0.001 in. silver, were found to be entirely satisfactory under packaging tests, although on containing a 3 per cent salt solution, they showed some discoloration, probably due to the formation of silver chloride on the surface, which darkened on exposure to light. However, there was no reduction of effectiveness in corrosion resistance resulting from this darkening. It was found also that the cost of the silver-lined pail came within reasonable limits, compared with the present pail which uses a rubber bag to hold the contents.

An unusually interesting application in which silver might fill an important need was the case of a round quart can for a chlorine-containing antiseptic salve. It was found that a silver lining would give better resistance to the action of the chlorine than any other available material; in fact, it was deemed most advisable to use a heavy silver lining and to use no copper undercoat because of the susceptibility of the product to poisoning by the copper. At this time, the one question involved in this container is the cost of plating the sheets with nickel and silver or with silver alone. There is no doubt that with the proper handling equipment, this type of work can be done at a cost reasonable enough to make it practicable. Ointment containers in general are a field in which silver-lined cans are likely to find wide use.

Silver-lined cans are being seriously considered for containing ether, dyes, hydrofluoric acid and other chemicals. Some of these are now undergoing tests. The cans under consideration are returnable, so that the first cost is of less than primary importance.

In the field of beverages, several promising development programs have been under way. A silver-lined barrel has been seriously considered for beer. (*Continued on page 104*)

Full automatic silver plating unit which is in current use at the International Silver Co. This is the type of apparatus which could be adapted most easily to plating cans. Experiments indicate the possibility of highspeed production by using this method.



PAPERBOARD CAN PACK IT—BETTER!

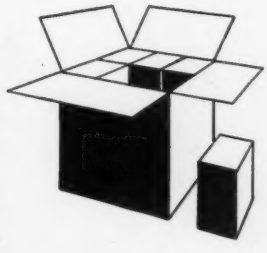
Many things packed in paperboard were once packed in something else! That's the bright hope for products now faced with curtailment of their packaging materials.

As a matter of fact, Container Corporation owes its existence to successful package conversion of hundreds of kinds of products. Paperboard cartons and shipping containers are in almost universal use because they have proved *better* — in costs, protection, convenience and marketability.

Package conversion is a job for thorough understanding — and thorough planning . . . which explains why our organization is composed of specialists in *every aspect of packaging.* Raw materials, paper making, and carton and case fabrication are all in our bailiwick. Our experts in the fields of design, construction, linings and coatings, packing procedure, distribution and merchandising *work together* on every job.

We'd like to dig into your *complete* packaging operation and help you find not only a new package, but a *better package,* and one that will utilize to the fullest extent your present methods and machinery. Call or write the nearest Container Corporation office and arrange a discussion.

CONTAINER CORPORATION OF AMERICA



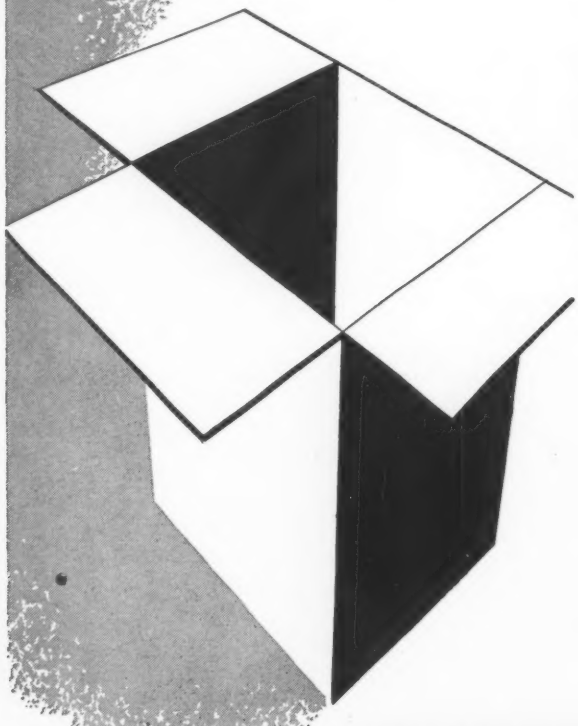
General Offices: 111 West Washington Street, Chicago, Ill. . . . New York • Rochester • Natick, Mass. • Philadelphia Akron • Cincinnati • Cleveland • Circleville • Detroit • Indianapolis • Wabash • Carthage • Anderson, Ind. Peoria • Rock Island • Minneapolis • Seattle • Wilmington, Del. • Baltimore • St. Louis • Fernandina • Ft. Worth

EVERYTHING PAPERBOARD—FOR EVERYTHING PACKED

FOLDING CARTONS • BOXBOARDS • CORRUGATED AND SOLID-FIBRE SHIPPING CASES

LOOK BEFORE YOU LEAP . . .

TO FIND A BETTER PACKAGE



Our *sample orders* today . . . laminated cellophane, glassine or parchment . . . coatings for water or grease resistance . . . finishes on paper, boxboard, kraft. *Products* such as sticky tape from a tin . . . powder from a barrel . . . dry food from a metallic wrap . . . even cream from a jar are included in our current problems. They are all interesting and most can be solved successfully.

★

With available materials we are doing our best to find constructive answers which will mean better packages, not just substitutes. If you are selling for government consumption or civilian needs . . . let's have your requirements. Our facilities fit many specialty needs, very possibly yours!

Ridgelo
CLAY COATED
BOXBOARDS · CARDBOARDS
MADE AT RIDGEFIELD, N. J., BY LOWE PAPER COMPANY

Representatives: E. C. Collins, Baltimore • Bradner Smith and Company and Mac Sim Bar Paper Company, Chicago • H. B. Royce, Detroit
Gordon Murphy and Norman A. Buist, Los Angeles • A. E. Kellogg, St. Louis • Philip Rudolph & Son, Inc., Philadelphia

MODERN DISPLAY

Educating the people to war

America is engaged in the greatest educational publicity campaign it has ever known. The government of the United States is educating the people to war. The health of the nation must be improved. To fight a war, not only must the armed forces be strong, but civilians must be physically able to withstand the many hardships they will have to combat. Good nutrition is a vital factor in building health and stamina and for this reason there is an urgent need for wide dissemination of accurate information on everyday dietary needs. The government, therefore, is sponsoring a National Nutrition Program whose purpose it is to teach the nation the basic requirements of good diet.

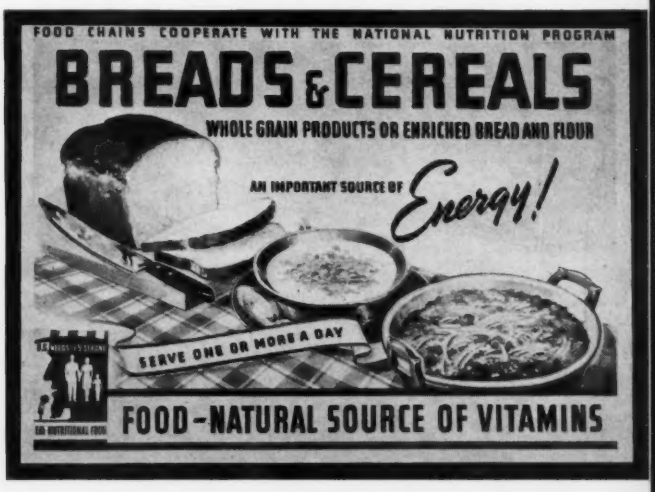
Wars must be paid for not only with blood and tears, but with money. The government has instituted drives which will encourage the people to buy War Bonds and Stamps. Civilians must be told how to guard information which might prove important to the enemy. The people can no longer obtain certain products; packages are changed which have used critical materials; articles of rubber must be preserved for as long a time as possible; people must learn to take care of all the things they have—information about these things as well as about countless others must be given to the civilian population. The government through its different agencies is endeavoring to make the people aware of just what they must do in order to carry on a war successfully.

One of the most important media used to disseminate this information and to educate civilians is display, in store windows and in store interiors. The government has made available to dealers throughout the country a quantity of display material—all allied in some way to the war effort. In order to cooperate to the fullest with the government, manufacturers and producers of packaged goods have taken the themes presented by the government and have created displays for their thousands of dealers in the nation.

One of the most striking examples of educational material is that of the American Meat Institute in its chart, "Eat the Right Foods," which ties in with the government's food-for-victory program. Based on the U. S. Government's Guide to Good Nutrition and approved by the Council on Foods and Nutrition of the American Medical Assn., it shows at a glance all the foods required to keep an individual fit for the job that lies ahead. It is the opinion of the American Meat Institute that everyone producing or processing food is making a valuable contribution toward a victory for the United Nations. Educating the public concerning a proper diet is a vital part of this work and for that reason the Institute has made this chart available to a wide variety of groups which have occasion to counsel the public on matters of nutrition.

Copies have been distributed to every nook and corner of the country. In the form of a large, full-color wall poster it has been supplied for display to more than 260,000 retail stores and on request to large numbers of state and city health officials, American Red Cross chapters, women's clubs, allied industries whose products are featured on the chart, hotels and restaurants, etc. Among others, railroads were interested in displaying the chart and approximately 50 roads got copies of it to display in more than 25,000 railroad passenger stations from coast to coast, where thousands of people are seeing

Two of the posters—all on food products—from a series of 8 that are distributed by the National Assn. of Food Chains.



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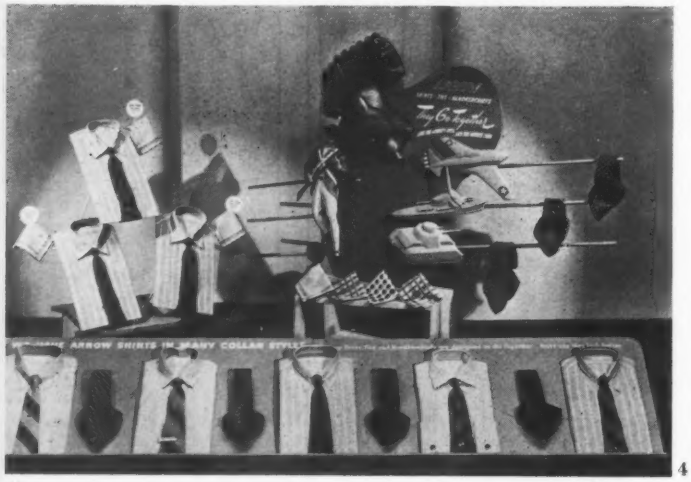

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1. ***American Meat Institute issues this chart, showing at a glance all the foods required to keep an individual fit.*** **2.** ***Del Monte ties in its complete line of food with the government's Guide to Good Nutrition.*** **3.** ***E. R. Squibb & Sons use these institutional types of displays for their products and at the same time emphasize the importance of public health.*** **4.** ***Arrow shirts, ties and handkerchiefs are grouped about a symbolic patriotic center piece.***

them. With this one cooperative poster, the public reached by the Meat Institute has been increased by many thousands and is being educated to the uses of meat in the diet.

Food chains have taken a steadily growing interest in the National Nutrition Program ever since it was put before them last year. Now that the program has reached the point where widespread publicity is necessary, the chains are pushing it strongly. The National Assn. of Food Chains is distributing a series of 8 posters for store use. Two of them deal with the National Nutrition Program as a whole and list the daily food needs as set forth by the Office of Defense Health and Welfare Services. Each of the others deals with a single item or group of items which has a place in the government's program. The theme poster is 20 by 30 in., carries official food rules and symbol and is designed for permanent display. It is supplemented each month by a smaller commodity group poster. Each poster bears the line at the top, "Food chains cooperate with the National Nutrition Program," and the line at the bottom, "Food—natural source of vitamins." Each poster is lithographed in 8 colors.

The program covers seven months from May to November with a new poster each month. In May the poster was on eggs to tie in with the Association's Springtime Egg Festival. June had a poster on milk, butter and cheese to tie in with the June Dairy Month which chains in all fields have pushed for several years to help the farmers. July's poster stresses the importance in the diet of vegetables. September's poster deals with breads and cereals and emphasizes the nutritional value of whole grain products and enriched bread and flour. October's poster is on meat and its value in helping to "Maintain strength and stamina." This specifically recommends the eating of beef, pork, lamb, fish and poultry. The grocer

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5. The food value in Sealtest ice cream for growing children is pointed up in this poster with a parachutist. 6. When Van Camp's were deprived of tin for their pork and beans, they switched immediately to these interesting mass displays for their new product, Tenderoni. 7. Flag Day promotion exhibit donated and installed gratis by window display specialists as a public service by Schenley Distillers Corp. 8. One of the Seagram-Distillers Corp. series of "silence" posters.

finds that many items not mentioned in the display can be brought into the picture, too, for they tie in closely with items which are mentioned. The dealer in setting up his display groups about the poster related products. For instance, the poster on green vegetables encourages the use of salad dressings of many types. The poster on eggs carries the suggestion for the grocer of foods which may be used with eggs or made with them. The Associated Grocery Manufacturers of America, which includes in its membership practically all manufacturers who serve the food field, is emphasizing the nutritional value of foods in its display materials and pointing up pertinent information about food products.

The large chain food stores are becoming more and more departmentalized with various sections devoted to a specific group of items. Displays are used to dramatize each particular department. The vegetable section, the milk and cheese department, cereals and flours, etc., may have a store poster setting each of them apart from any other section. Grocery manufacturers take advantage of this by tying in their display material with seasonal informative posters on one particular type of food such as berries during the summer, broccoli, tomatoes, etc.

In line with the government's program not only to accent nutrition but also to effect economy and eliminate waste in connection with food, the Mueller's Macaroni Products Co. undertook a test merchandising campaign in Queens and Westchester, N. Y., and in the principal cities of New Jersey, to bring to the attention of merchants and customers the economy value of the Mueller large family-size package. Stores and super markets in selected territories set up more than 50 Mueller floor displays. Largest of these was

in the Big Ben Market, Glen Cove, Long Island, where 100 cases of the large family-size package formed a huge package tower from the floor to the ceiling. Maintained for three weeks, this display increased sales of Mueller Macaroni Products by 300 per cent, according to Fred Mueller, sales promotion manager, and indicated a quick response on the part of the public to the economic idea which the government strongly advocates.

The campaign not only increased sales of the Mueller brands, the company stated, but stimulated other business as well, due to the fact that macaroni products sales promote sales of associated items such as cooking oils, cheese, chopped meat, chipped beef, tomatoes, etc., which combine to make a complete one-dish meal.

When tin was ruled out for pork and beans, Tenderoni was introduced by Van Camp's to help fill the sales gap left when the former product was temporarily lost to the market because of tin priorities. Use of Van Camp's pork and beans barrel display to hold the Tenderoni provided a clever way of tying up the old with the new. Barrels were placed on display near the checking counter of grocery stores.

Many advertisers confronted with the problem of what kind of displays to use when priorities make it impossible to offer the quality product formerly sold have brought out a substitute to meet consumers' immediate needs and at the same time explained the substitute through the medium of displays. An example of this is found in the Boston Woven Hose and Rubber Co., makers of jar rubbers. The company states frankly in its copy that the new Bull Dog brand of jar rings is a substitute for its Good Luck brand, that it is not so good, but the best that can be had for the duration. Consumers are told to get the substitute rings from their regular dealers and to be more careful to use them promptly. The company found that absolute honesty is the best policy and that through promotional media the facts in the case can be brought to the attention of the public.

Seagram-Distillers Corp. has brought out a series of "silence" posters, poster stamps and table tents. None of these carries any sales promotional message. The company has not attempted to tie in its sales campaigns with a patriotic motif, for it seemed to them that the results of any patriotic efforts they would make would be vitiated to some extent if the efforts were not made solely with the idea of serving the national interest rather than attempting to create a connection between the company's sales and the welfare of the country. However, this is a matter of relatively personal feeling, officials of Seagram stated. It just appeared to them that since they were a part of this free country and have benefited from that freedom that it was a privilege to use the company's facilities to serve in this particular way. The company originally had in mind displaying its "silence" posters in taverns, but they soon became so popular that requests for them came in from all types of display points, including Army posts and branches of the O.C.D. The result is that more than half a million of them are in circulation and on display throughout the nation. (*Continued on page 98*)

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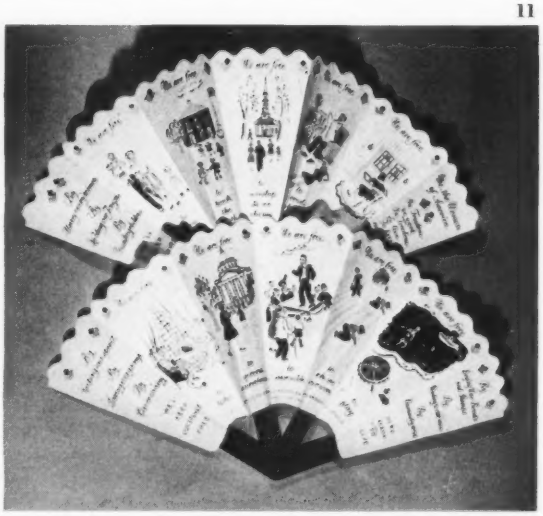

9. A display furnished by Sealtest which is typical of the departmentalizing of the various divisions in drug stores, grocery stores and the like. These displays are permanent pieces which will last for many years. 10. Two of a series of four patriotic posters promoting the sale of War Bonds and Stamps issued by Shulton. 11. Shulton's Victory Fan which pictures the 10 freedoms for which America is fighting.

MUNDET SCREW CAPS are made to give maximum sealing protection. Various kinds of liner discs are available to meet special needs. These attractive, modern closures are quickly applied or removed from the bottle. Standard diameters and stock designs.

HOW TO MEET SEALING PROBLEMS

When Mundet Molded Screw Caps seal your products you benefit from the specialized knowledge of one of America's oldest closure manufacturing organizations. This experience can be particularly helpful now in meeting sealing problems brought about by wartime conditions. As manufacturers of many types of closures, for many specific uses, we are able to advise impartially and to make recommendations that meet your requirements most practically. Address inquiries to Mundet Cork Corporation, Closure Division, 65 S. Eleventh St., Brooklyn, N. Y.

Mundet offices and representatives are conveniently located:

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BROOKLYN
65 South Eleventh Street
CHICAGO
135 West 63rd St.
CINCINNATI
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CLEVELAND
Britten Terminal, Inc.
DALLAS
505 Southland Annex
DENVER
The Stone-Hall Co.
DETROIT
335 West Jefferson Avenue
HOUSTON
Commerce and Palmer Streets
JACKSONVILLE, FLA.
Laney & Delcher Warehouse
KANSAS CITY, MO.
1428 St. Louis Avenue
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35 Booth Avenue, Toronto

MUNDET CLOSURE SERVICE

MOLDED CORKS • MOLDED SCREW CAPS • EMBOSSED WOOD-TOP CORKS • CROWNS • PLAIN CORKS

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4

1 Current counter display for Chamberlain's lotion carries the same pictorial that appears in larger size on the new window display. Special die-cut openings in the shelf of the counterpiece hold a carton and a bottle of the lotion, thus incorporating the actual package in an interesting way. The photograph of a young man and woman is lithographed in full color. Made by Forbes Lithograph Mfg. Co.

2 Pepperidge Farms, Fairfield, Conn., have adopted a re-designed display dispenser for their Melba toast, both white and whole-wheat. Individual cartons were re-designed to give emphasis to end panels and to provide easy identification for both dealer and buyer when the toast is sold from the dispenser. Apertures at the back of the piece also enable the dealer to push out the small packages or they can be pulled out from the front. Illustration of the picturesque farmhouse trade mark appears on the dispenser and each of the individual packages. Designed and made by Robert Gair Co., Inc.

3 This seasonal display features the nutritional qualities of Birds Eye foods and carries interesting menu suggestions for the housewife. The piece is made with a single cardboard back and the sheets may be torn off by the dealer from day to day or from week to week. Each sheet illustrates in full color different foods and dishes to help the shopper to plan meals. Informative copy about vitamin content of foods is carried at the foot of the poster. Made by Snyder & Black, Inc.

4 Making it easier for customers to "take one," Glenmore Distilleries is now distributing this clever point-of-sale piece which dispenses the new issue of the "How to Make Famous Kentucky Drinks" booklet by Colonel Glenmore. The dispenser requires no easel because of its simplified construction. It is reproduced in four colors on five-ply board and holds about 25 recipe booklets. Cover of the booklet repeats the amusing line cartoon drawing of the slyly winking Colonel. Made by R. & L. Lithography Co.

(*Page 72*)

Display Gallery

5

6

7

8

5 The nation's victory drive has changed normal ways of living and American homemakers busy with war work are turning to easier methods for feeding the family. They are relying on easy-to-serve and time-saving menus. The Loose-Wiles Biscuit Co. emphasize the timeliness of their Sunshine products with the slogan, "Always ready to serve," which appears on their current display pieces. Brightly colored pages and special store pennants, featuring this theme, are being furnished to cooperating merchants for use in window treatments and throughout their stores. Display by Bragaw-Hill, Inc.

6 Norwich Pharmacal Co. show their general line of drug products in a mass arrangement with a nurse as an attention-getting spot. The figure of the nurse dominates the entire display and suggests to the window shopper equal confidence in the products as that associated with the medical profession which she represents. Made by Kindred MacLean & Co., Inc.

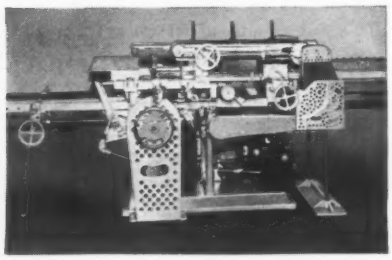
7 Created to attract the attention of even the casual passer-by and to suggest in a dramatic way the coolness and flavor of a summer drink, this whiskey collins window display has been made available to retail outlets by Calvert Distillers Corp. The piece features colorful little figures of penguins and polar bear cubs that carry small signs upon which such slogans as, "Enjoy a Calvert Whiskey Collins," "Hot and Bothered? Cool Off!" and "Beat the Heat," are printed. The centerpiece is a large colored cut-out of a whiskey collins glass upon which the words, "It's 42° Cold Inside!" appear. The glass is surrounded by penguins and bear cubs and rests upon realistically appearing blocks of ice. Made by Zerbo Co.

8 Admiración Shampoo, a subsidiary of the National Oil Products Co., is now being featured nationally in the beauty shops with this three-part window display. It was designed to be accurate in style appeal, and to insure this the company picked three girls whose hair was particularly photogenic. Each girl's coiffure was styled by Antoine. Each of the three was given a special make-up and dressed in a well-designed gown. Because of the care with which these details have been observed, the display creates an impression of dignity and style as a background for the packages of shampoo and other items for the care of the hair. Made by Hussey-Woodward, Inc.

(*Page 73*)

We'll cover the country to find a wrapping machine that will meet your needs

MODEL FA—Most widely used wrapping machine in the package goods industry.



This extremely versatile machine is now wrapping a variety of essential supplies for our Army's use...And it is playing a large part in keeping up the flow of foodstuffs and other essentials to the public...Fast, dependable and quickly adjustable for a wide variety of sizes, it's the kind of machine you'll want to have in mind when machines can again be freely delivered for peace-time needs.

Our first obligation in the present emergency is to supply machines for our armed forces...The second is to assist manufacturers who require wrapping machines for civilian production.

So to aid those who cannot obtain high priority ratings for new wrapping machines, we are endeavoring to locate used machines of our manufacture, which will meet their needs. Because of our broad and intimate knowledge of the field, we frequently can find—or already know of—plants having idle machines which can be sold to other manufacturers...One well-known company recently secured ten machines in this way. Another bought two machines from a manufacturer in an entirely different line.

We do not buy or sell such machines, but merely supply information as to where they can be obtained. Then the interested parties should get approval from Washington to carry out the exchange.

Our machines are very versatile and most models are suited to several types of wrapping material. They can, therefore, be adapted to the needs of new users with little or no alteration.

If you can benefit by this service, send us full information regarding the *type of machine* or *style of wrapping* you require. We'll endeavor to find the right machine for you.

We suggest that you write our nearest office.

PACKAGE MACHINERY COMPANY, Springfield, Massachusetts

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Mexico: Agencia Comercial Anahuac, Apartado 2303, Mexico, D.F.
Argentina: David H. Orton, Maipu 231, Buenos Aires
England: Baker Perkins, Ltd., Peterborough Australia: Baker Perkins, Pty., Ltd., Melbourne

PACKAGE MACHINERY COMPANY

Over a Quarter Billion Packages per day are wrapped on our Machines

Open and closed display cartons, each of which holds 20 small packages

Vick's new cough drop plant

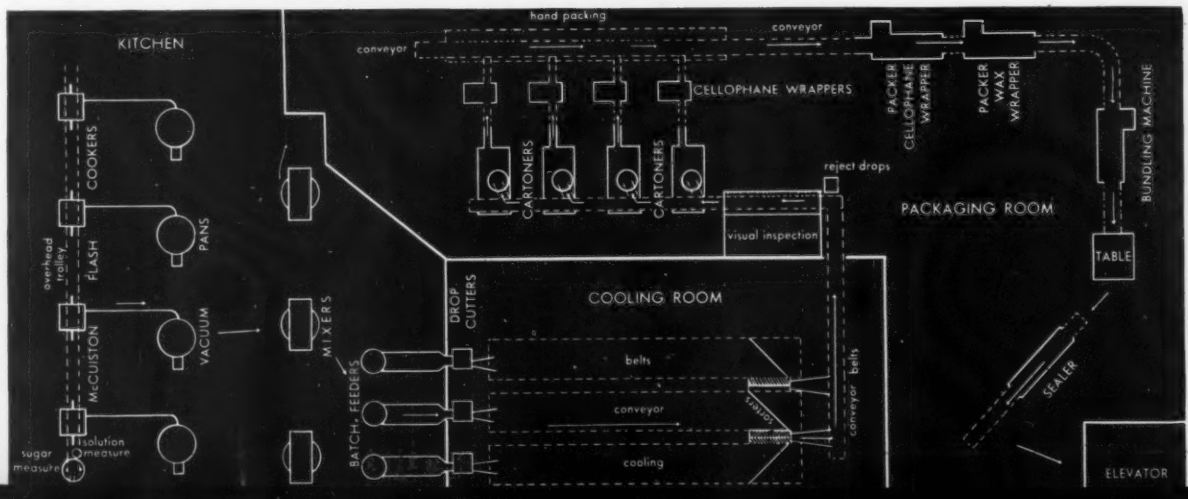
The story of making and packing of the Vick Chemical Co.'s medicated cough drops in its new plant in Philadelphia begins, like so many good things, in the kitchen. In the spic and span plant kitchen the cough drop in its first stage as a mixture of sugar and corn syrup is cooked. This mass is thoroughly mixed and cooked quickly in a new type high-speed evaporating cooker. The development of this cooker was one of the achievements in effecting a successful process for the making of the Vick cough drop.

After the mixture has been cooked until practically no moisture is present, it is removed by vacuum from the cooker and is received into a vacuum pan. This pan removes practically all of the moisture remaining after the cooking process. All temperatures and time elements involved in the cooking and vacuuming are controlled by special recording and controlling instruments.

As soon as the cooked mixture is of the proper consistency in the vacuum pan, it is removed to a mixing and cooling machine where Vick's medication is mixed thoroughly throughout the batch. Here the mixture is pulled in much the same way as taffy is pulled and is changed in consistency so that it is ready to be taken into the batch feeding machine. The purpose of the latter is to form the mass into a continuous rope which travels into a drop forming machine. Still warm, the rope-like mass enters the machine which compresses it under tremendous pressure, thus forming the drops.

Flow chart showing how the line progresses from the cookers through the various operations to the bundling machines on the extreme right.

(*Page 75*)



From this machine, the now shaped and formed drops fall on to incline conveyor belts. These are equipped with agitators to prevent the drops from sticking. The agitators bounce the drops along on the moving belts and allow the air to circulate about them. Fans trained on the belts blow air upon the drops, as they travel along on the conveyors, to help speed up the cooling process. The room through which the conveyors pass is air-conditioned and the filtered air temperature remains constant at 50 deg. F. Freedom from the many atmospheric impurities is thus afforded the drops as they move from one operation to the other. At the end of these belts, there are sorting machines which remove under- and over-size drops. As the drops leave the room on an incline conveyor, they pass by a group of inspectors where any broken or chipped drops are rejected. The rejected chips, over- and under-size and the broken drops, are reclaimed in the kitchen, where they are placed in the cooker to begin their travels all over again down the production line.

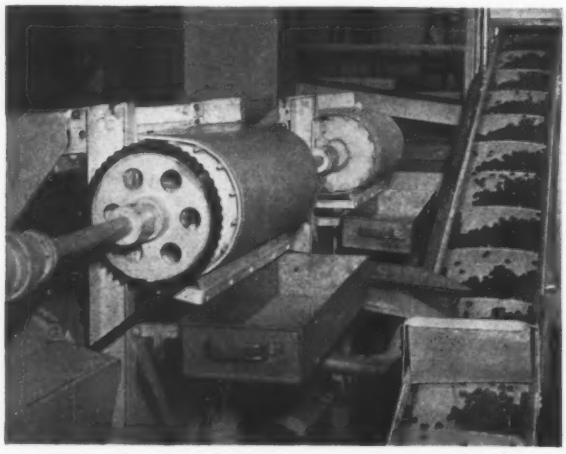
After the cough drops have been carefully inspected, they are then taken by conveyor to the carton filling machines. These machines are equipped with automatic reject devices that eliminate any over-weight packages. These special devices were developed by Vick mechanics and operate with fine precision. The battery of four carton-filling machines has a capacity of approximately 100,000 ten-cent packages during each 8-hour day. When the individual cartons are filled and closed, they go to the cellophane wrapping machine which wraps each individual package in moisture-proof cellophane so that the consumer is always certain of a fresh product. The package is now ready to be placed on the display container line.

Conveyors take the ten-cent cartons to this particular line. Special conveyors were needed for this purpose, so the Vick company's mechanics took standard conveyors and adapted them for the work. Placing the individual cartons in the display container is a manual operation as final inspection of the wrapped packages is desired. Twenty 10-cent size cartons are placed in each of the large display containers. These large cartons are made with two designs and the final unit of sale to Vick dealers is 40 ten-cent packages—20 in each of the two display containers.

The placing of the small individual packages in the large, display containers requires one girl for each of the filling machine lines. When she has filled the display, it goes along the conveyor to a delivery end where another operator closes the container which then moves on to the wrapping machines.

The first of these wraps the package in moisture-proof cellophane. Again the package moves along to the next machine which gives the package another wrap of heavy waxed paper. This second machine is very much like the first except that it has a special mechanism whose purpose it is to cool seal quickly. The carton comes out of the machine in a wrap that is highly protective and there is little chance for the cough drops to lose any of their original goodness even though stored for long periods.

1



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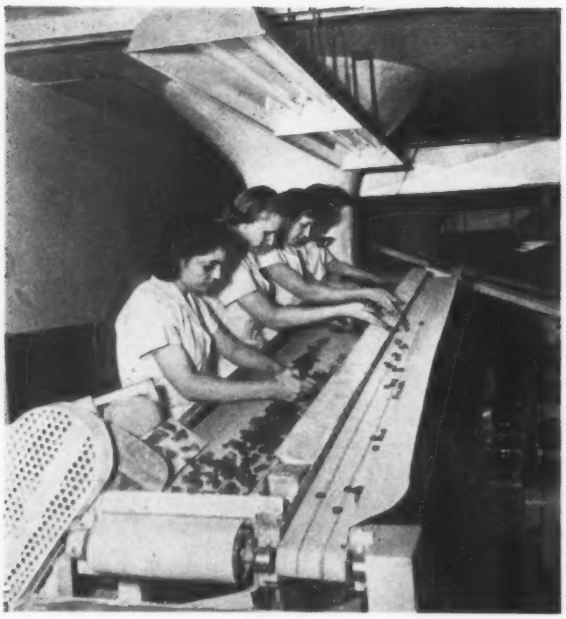

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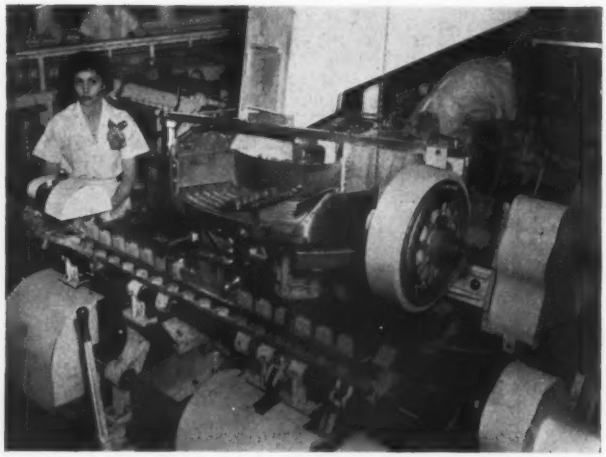

1. These drops have just left the drop forming machine and traveled by agitated conveyors to this sorting machine which removes over-size drops. 2. After all over-size drops have been eliminated mechanically, the remaining drops go along by conveyor to these girls who inspect for broken or chipped drops. All chips and rejected drops are returned to the kitchen and recooked with fresh batches of the cough drop mixture. 3. Cartons being filled by machine equipped with automatic reject device which throws out over-weight packages.

Upon leaving the last wrapping machine, the filled display cartons are ready to be bundled into the regular dealer sales units. Two of these 20-in. packages—one green and one red display container—are bundled together and wrapped with a colored kraft paper which has printed seals on each end for product and brand identification. These units are then placed in corrugated cases. As a last operation, the cases pass through a case sealing machine for final closing.

Completely automatic, the production line for Vick's cough drops curves smoothly from cooker to the sealing of the shipping case. The conveyor system has been so carefully worked out with upgrade, incline and level belts that the line runs uninterruptedly from beginning to end. Minimum of space is used because of the clever arrangement of the various operations. The flow chart shown in this article illustrates just how the conveyors continue in an unbroken sequence back and forth across the plant.

Because the production of the cough drops is automatic the drops themselves are never touched by hands. This is one of the factors in manufacture which makes for highly desirable hygienic conditions. When the packaging of a product is done also almost completely by machines, the consumer is assured of receiving it in a sanitary state, free from any contamination. The moisture-proof cellophane wraps on the individual cartons and the double wraps on the display containers further insure protection for the cough drops from dirt and moisture which would make the drops sticky or unpalatable.

Credit: Sorting and carton filling machine by U. S. Automatic Box Machinery Co., Inc. Wrapping machines and bundling machines by Package Machinery Co. Display and individual cartons by Robert Gair Co., Inc.; Gardner-Richardson Co. Shipping containers by Robert Gair Co., Inc.; The Mengel Co., Inc.

4. Battery of four carton filling machines, showing at the upper left hand corner the visual inspection section from which the cough drops come by inclined conveyor directly to the filling machines. 5. This battery of machines wraps the individual cartons in cellophane. The hand packing line, shown at the upper right, places the packages in the display containers. 6. When filled, the display containers pass on to the wrapping machines, the first of which wrap the containers in cellophane and the second in a final wrap of heavy waxed paper. 7. The bundling machine puts together a unit of two of the 20-in. cartons and wraps them with a colored kraft paper.

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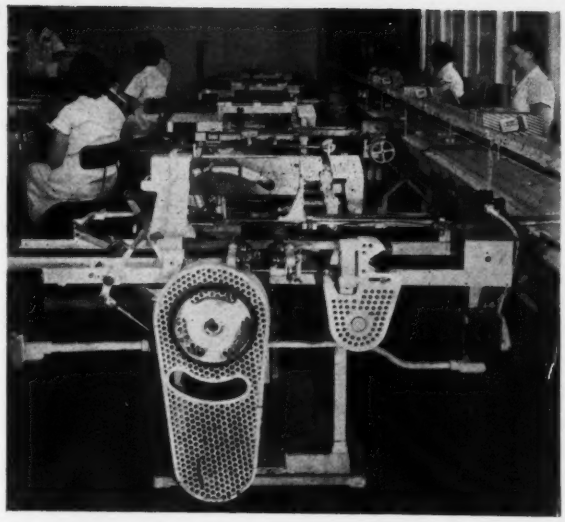

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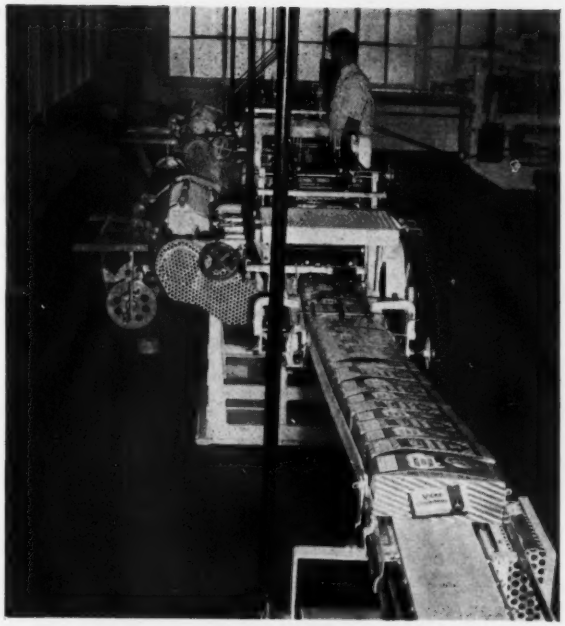

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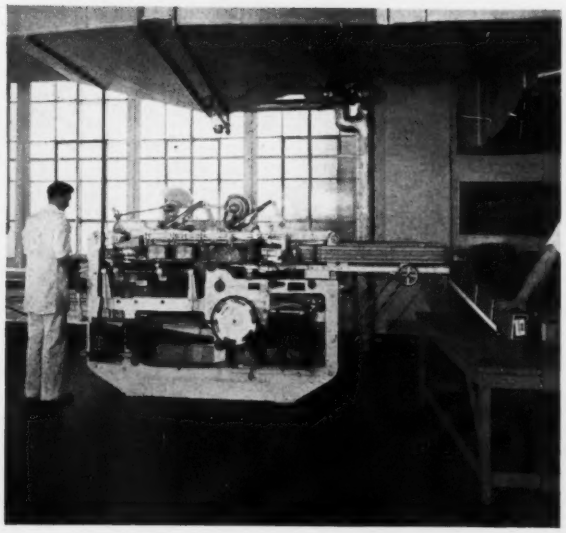

Prunes ready to eat

In recognition of the effectiveness of metallic foil to prevent excessive moisture loss in packaged prunes, as described in this article, the California Prune and Apricot Growers Assn. is being permitted the use of lead foil for packaging of its branded line of "Sunsweet" prunes, according to latest advice to Modern Packaging. Officers of the association state that adequate quantities of lead foil are on hand to take care of current and future requirements, but owing to the war emergency this vital material is for the present being used only for the packaged prune product. The method of applying foil as outer wrapper to effect a tight seal, and the "tenderizing" process, both of which are described in this article, have not been changed in the least. Nor are changes contemplated for the immediate future, the association points out.

When the California Prune and Apricot Growers Assn. a decade ago adopted the use of foil as a wrapper for "Sunsweet" prunes, this marked a packaging development of considerable importance to the dried fruit industry.

First to realize the potentialities of foil for dried fruit packaging, the organization conducted extensive experiments, adapting and devising new methods of effecting a tight seal with metallic wraps, succeeding in doing so under conditions rendered all the more difficult by the high temperature processing and packaging of the product. The accomplishment is all the more meritorious when it is recalled that the prunes which today are widely marketed in attractive consumer packages with the shiny metallic label wrappers, then belonged in the cracker-barrel age as far as packaging was concerned.

As packers and marketing agents for the thriving dried fruit industry centered in California's famed Santa Clara Valley, the association has succeeded, by means of foil and the "tenderized" process, to lift the lowly prune into a position of esteem in which it is now held. Today an ever increasing share of the "Sunsweet" prune crop is marketed in the compact 1- and 2-lb. cartons with outer wraps of foil, with the expectation that eventually all of the prunes grown in Santa Clara Valley will reach the market in this form rather than in more bulky packs.

The capacity of foil seal to withstand moisture loss in packaged prunes, as well as in the other dried fruits, such as peaches and apricots marketed under the "Sunsweet" label, is credited by the association with an achievement that already has had far-reaching repercussions on the dried fruit industry, particularly in creating a year-round market for the packaged product. California prunes ripen during the latter part of August, when they are harvested, dried and otherwise processed for year-round storage. One of the serious difficulties encountered by the association, which, however, has been remedied by the use of a foil wrapper seal, was the excessive moisture loss sustained during storage of the package in transit, in the wholesalers' warehouses and on the retailer's shelf. There was a tendency for the packaged prunes to start drying up in early summer and by midsummer to become practically unsalable, thus substantially shortening the selling season.

Past experience with ordinary packages showed that when placed on shelves in a steam-heated store, moisture loss amounted to as much as 1 or 2 per cent within a period of from two to three days. Aside from thus reducing weight of the package, drying-up resulted also in loss of the fruit's flavor. Now, with use of foil, as applied by the tight wrapping machine, moisture loss is considerably reduced, and, furthermore, prunes are kept in substantially a pasteurized condition for eating in the raw, without soaking or washing upon removal from the package.

Recently, in national publicity on the foil package, the

1. *Present attractive consumer package of dried prunes.* 2. *Trays of prunes lying in the sun for curing.*

1

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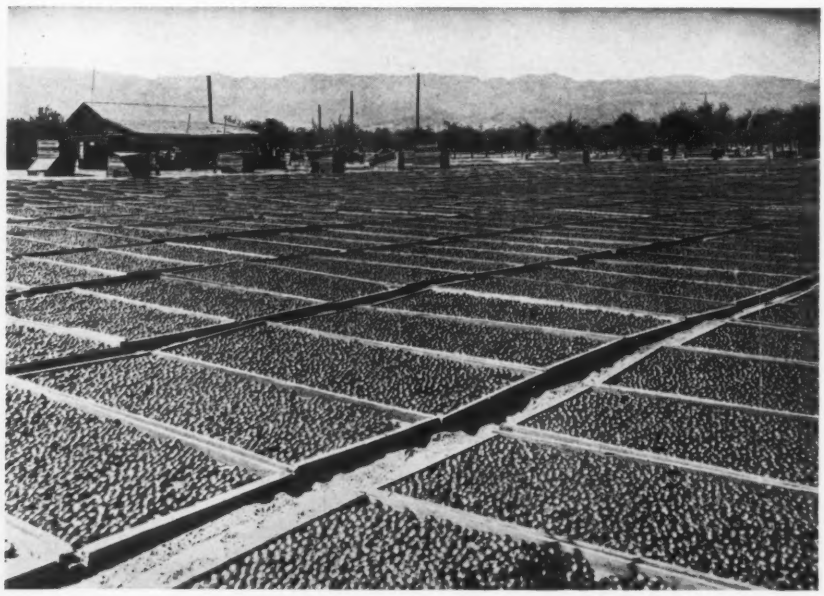

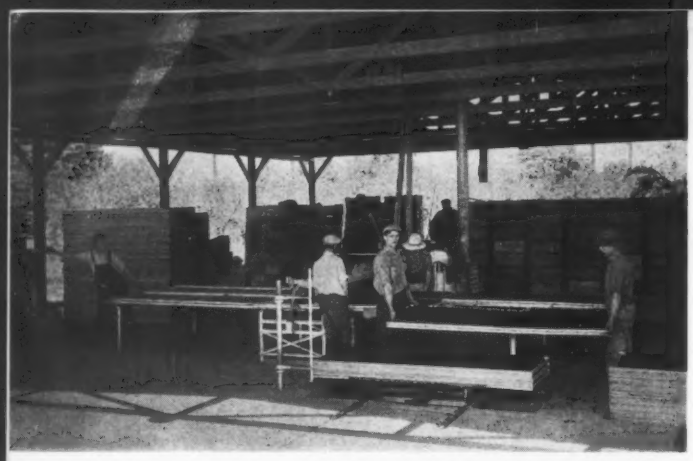

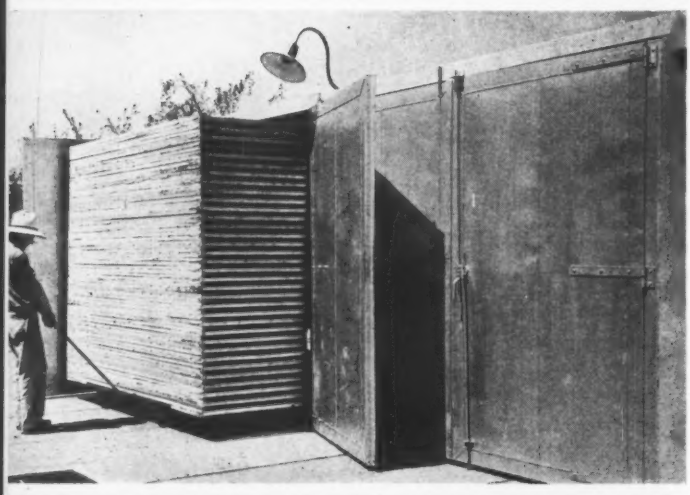

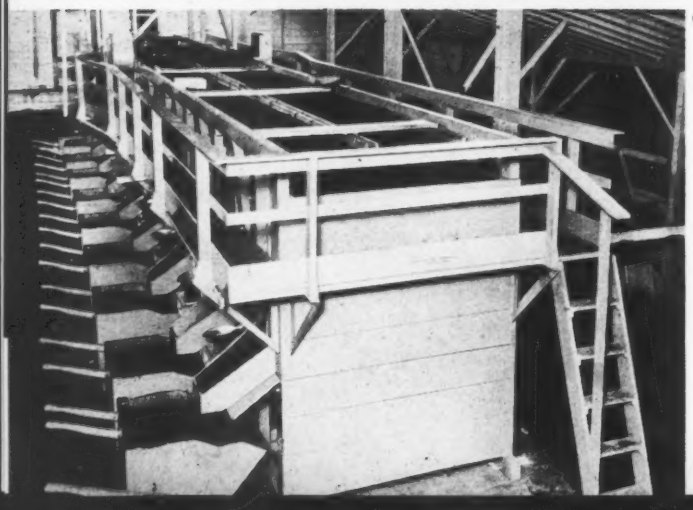

association made public results of comparative tests to determine its keeping quality under intense summer heat, a condition which usually results in excessive moisture loss. The foil-wrapped package, with an assortment of other types of prune packages, was placed in a torture chamber in which a constant dry heat of 100 deg. Fahrenheit was maintained for a period of 20 weeks. The moisture loss in each package was accurately measured. The same amount of moisture loss occurred in some packages at the end of one week, in others, up to a maximum of five weeks, but in the foil package, this test showed, such loss did not occur until the twentieth week. In fact, it was the only package tested to stand up that long without excessive drying-up of the contents.

So completely sold is the California Prune and Apricot Growers Assn. on the effectiveness of foil in reducing moisture loss, that it is now marketing the "Sunsweet" packages of "tenderized" prunes, apricots and peaches with a three months' guarantee against spoilage. This, too, has had the effect of broadening the packaged product's market for year-round selling. A code mark, imprinted on the package as it leaves the packaging line, indicates the date of packing and enables the management to retrace the history of the package and the fruit almost back to the orchard from where the fruit came.

Selection of a suitable foil material received much attention, but the larger problem was that of developing a method of sealing it to the outer surface of the carton, of imprinting labeling matter and of creating an air-tight wrap. As to the foil itself, experiments conducted in the association's research laboratory showed that not one but a number of metallic foils are adaptable to the purpose, much depending on how the particular foil is applied to the carton. Whether it is tin foil or aluminum foil, or any other standard metallic foil such as has been used for packaging of food products the effect is the same, serving as a barrier against the potentially dangerous influences of climate, due to excessive humidity or excessive dryness.

In its efficient packing plant in San José, the association has developed a method of applying foil which results not only in a moisture-proof but in a highly attractive package. All of the "Sunsweet" packages now have foil on the outside. the smooth, glossy surfaces adding much to their eye appeal. Formerly, however, it was customary to reverse the foil when mounting it on the carton, for the reason that printing ink did not adhere readily to the shiny surface. Labeling information had therefore to be printed on the dull side of the wrapper, which was not conducive to an attractive container. Development of a gravure process by the Reynolds Metals Co. for printing such information directly onto the foil surface of the wrapper has completely solved the problem, according to the association's executives. Now all "Sunsweet" packages of "tenderized" prunes, apricots, peaches, raisins and mixed fruits are distinguished by their gold and silver metallic coverings.

The larger problem was developing a method of applying the foil wrapper under relatively high temperature conditions necessitated by the fact that the package content cannot be

3. Trays of prunes to be placed in sun or dehydrator. 4. Dehydration of prunes is completed in the orchard's dried-fruit house prior to shipping to the packing plant. 5. Sacks of dried prunes are received in the packing plant from growers in Santa Clara Valley. 6. In packing plant the dried fruit is first graded for size and quality by this especially built automatic equipment, before sterilizing.

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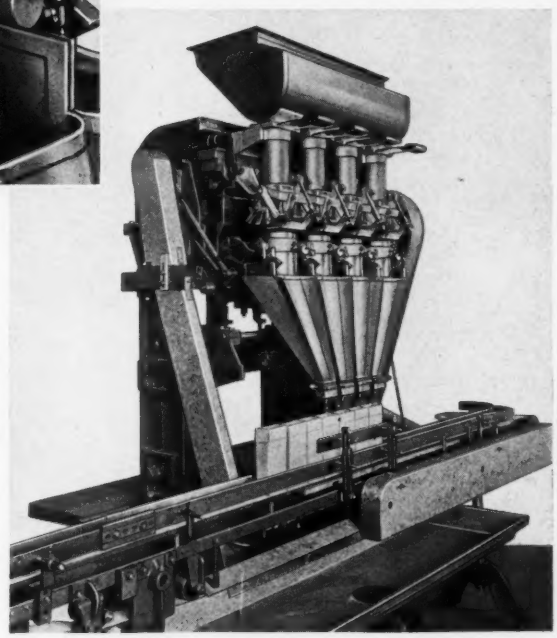

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Don't overlook the electrical points which operate the material feed shutters. If they are sparking, they are not making a clean contact. Polish them up with a thin India oilstone. Never use emery cloth or a file. Finally, OIL, GREASE, CLEAN and INSPECT—and keep on doing it to "Keep'em rolling."

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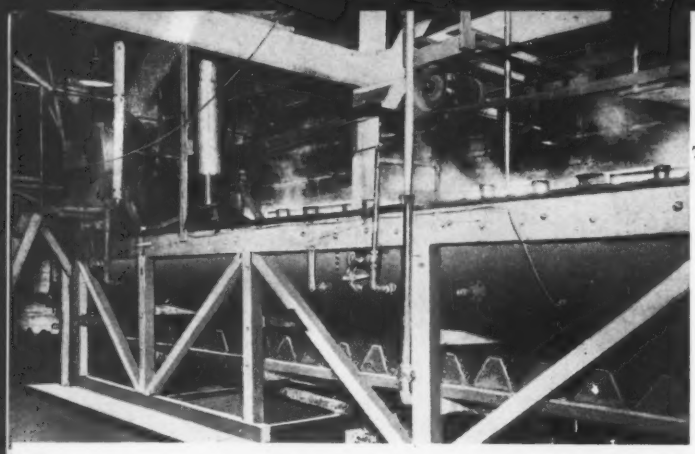
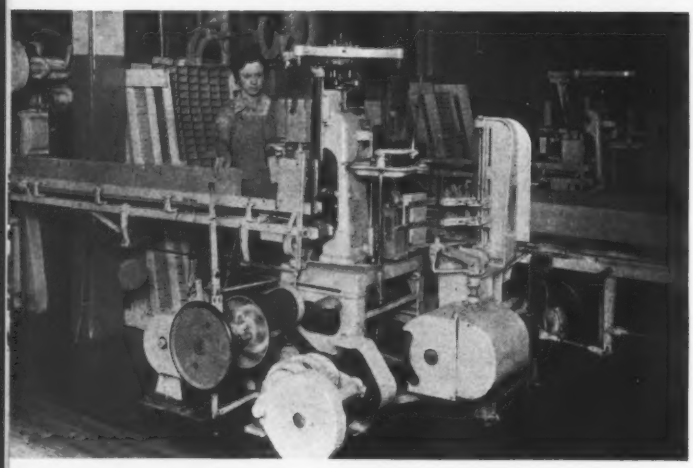
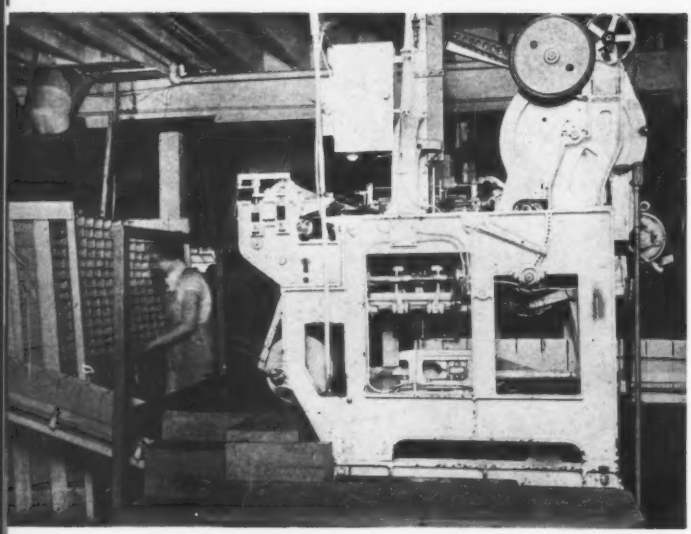
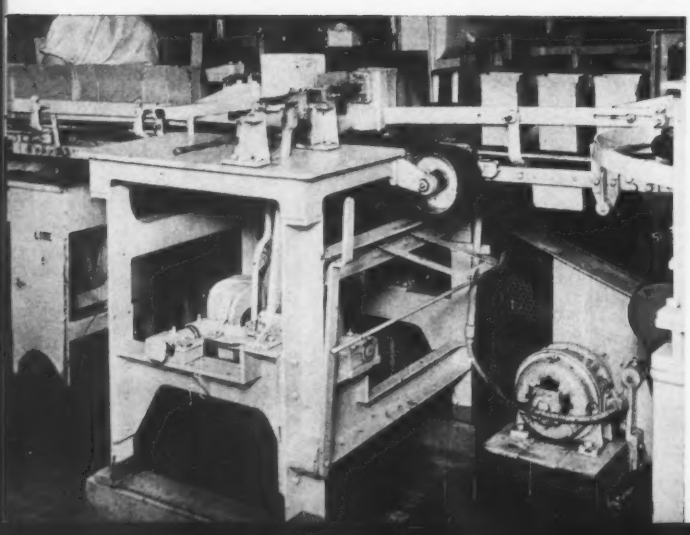
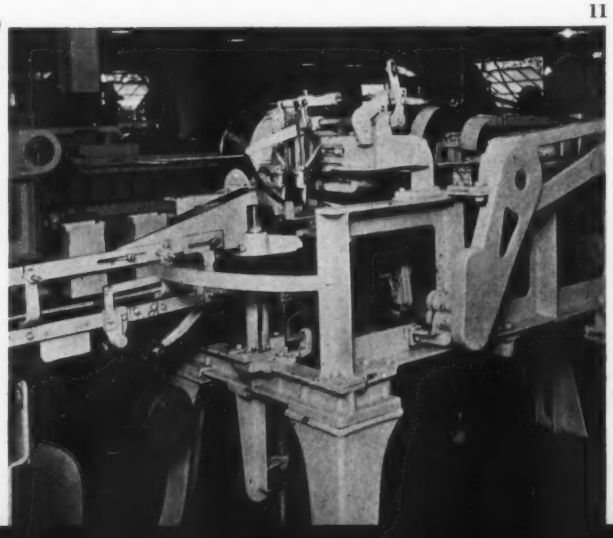










permitted to drop below sterilizing temperature before being completely wrapped. This created a serious packaging problem, it being more difficult to apply the label to a hot and therefore less rigid carton than is the case in a cold packaging operation. The "tenderized" process, an operation which carries through into the shipping case, requires that the wrapping be done at temperatures above 170 deg. Fahrenheit. The difficult task of wrapping under such high temperatures has, however, been successfully accomplished in the association's packing plant.

Two essential steps in the "tenderized" process are the sterilization of the prune after its removal from bin storage in the packing plant (this step being accomplished by preliminary rehydration, followed by a short cooking process through immersion in boiling hot water); and the fireless cooking step, which is carried on to some extent in the finished package. The combination of these two necessary steps under proper control as to time, temperature and other factors, such as raw material selection, results in the "Sunsweet tenderized" product.

The "tenderized" process is similar for dried apricots and peaches. These, like the prunes going into the "Sunsweet" package, are harvested at maturity, when sugar content is at the maximum, carefully inspected for quality, graded and sterilized prior to packaging. One effect of the "tenderized" process is to increase moisture content in the fruit. Prunes so processed have an appetizing, smooth, black skin, are pliable yet not too soft, and are, therefore, ready for eating or cooking when removed from the package, without being soaked in water. The foil package goes hand-in-hand with this process, since it affords a means of conserving moisture and with it, the flavor and appearance of the dried fruit.

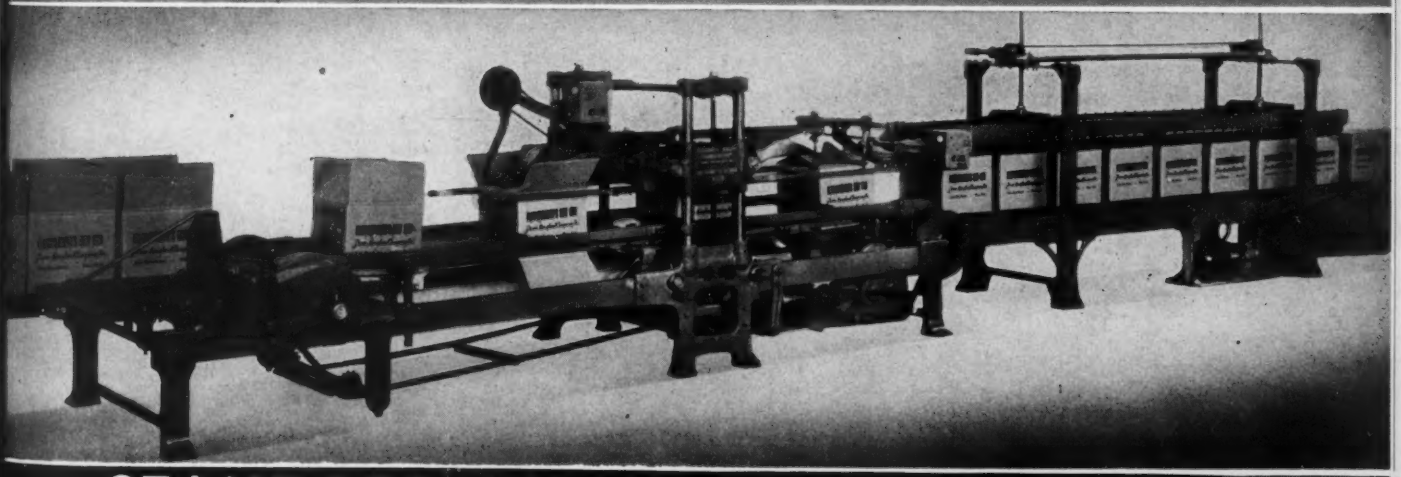
It should be made clear that fruit received in the association's packaging plant for processing and packaging is in the dried state. These fruits have a relatively high sugar content—higher than in the case of cannery ripe fruits which must be picked before full maturity is reached in order to retain a satisfactory shipping quality. It is also of interest to note that the entire prune crop goes into the dried product, whereas only a small part of the apricot crop is dried and subsequently packaged. By far (*Continued on page 100*)

7. ***After grading, the prunes are sterilized under high temperature, this being an essential step in the "tenderized" process.*** **8.** ***First step in the packaging line—opening and shaping the cartons.*** **9.** ***Placing the waxed paper inner liner in the unfilled cartons.*** **10.** ***Pressing the prunes to the proper level in the cartons before the tops are sealed.*** **11.** ***View of the carton top sealer in action.***

MAKE MINE

STANDARD-KNAPP

Brewing is another of the packaging industries in which Standard-Knapp is pre-eminent. As you visit the breweries of Schlitz, Budweiser, Pabst, Ruppert — you'll be struck by one similarity between all of them: they all use Standard-Knapp case-packing and case-sealing machinery. There must be a reason for such consistent leadership. There is — Standard-Knapp equipment runs faster, longer and with less cost and more satisfaction.



STANDARD-KNAPP CORPORATION

MANUFACTURERS OF CASE SEALING, CASE PACKAGING, AND CAN LABELING MACHINES

FACTORY and GENERAL OFFICES PORTLAND, CONNECTICUT

570 Lexington Ave.
NEW YORK, N. Y.

208 W. Washington Street
CHICAGO

702 Society for Sav. Bldg.
CLEVELAND

300 Seventh Street
SAN FRANCISCO

420 S. San Pedro Street
LOS ANGELES

3224 Western Avenue
SEATTLE

1208 S. W. Yamhill Street
PORTLAND, OREGON

Paul Brown Building
ST. LOUIS, MISSOURI

Windsor House, Victoria Street, LONDON, ENGLAND

Salting it away by machinery

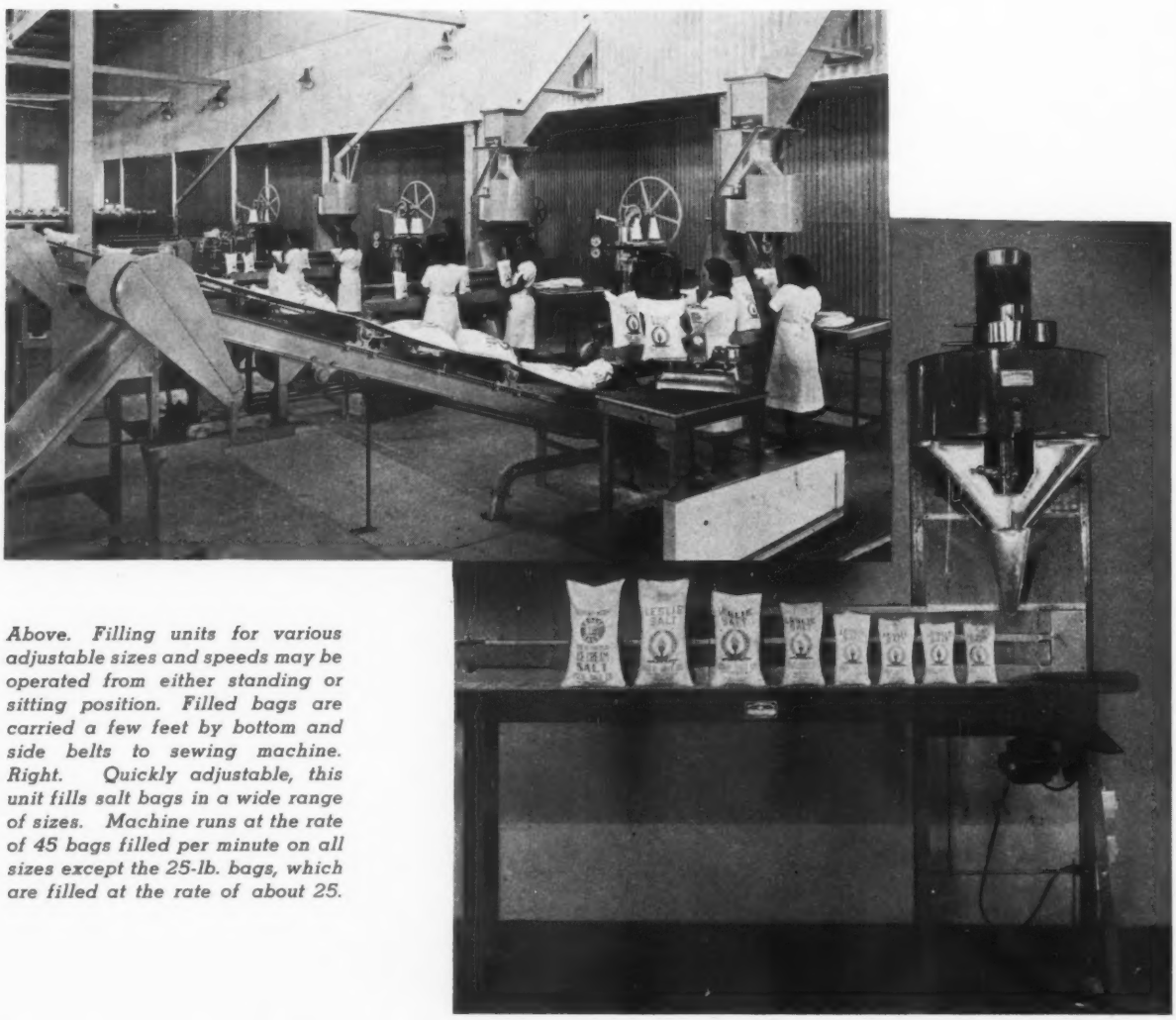
Salt is one of those commodities which is so common that the average person takes it fully for granted, with never a thought as to how it reaches him or what steps in handling, packaging and distribution it takes en route. It hasn't always been so. In the Middle Ages, when the tax experts operated on the principle, "Soak the poor," salt was an object of taxation because it was a universal necessity and the salt taxes made the common people very "salt conscious." Without a doubt, salt was bootlegged and hoarded as products always are when natural distribution channels are clogged for any reason.

Today, 10¢ will buy enough table salt to supply the average family for several weeks. Salt deposits, apparently inexhaustible, are to be found in at least 10 states in the United States. These natural supplies, coupled with mass production processes, modern packaging efficiency and up-to-date packaging machinery, are adequate assurance that the average person can continue to take his salt for granted.

The salt manufacturer prepares his products for many different uses and, therefore, it must be made available in many different grades and many sizes of packages. Ice cream salt, for instance, differs in size of grain and unit of sale from grades for other purposes. The margin of profit on a commodity as low priced as salt makes it imperative for the producer to shift from one brand to another and from one size package to another with a minimum of mechanical adjustment and in as short a time as possible.

The Leslie Salt Co. has installed a battery of packaging machines in their new plant at Newark, Calif., which solves this machine-time problem. Each unit consists of a bag filler which can be adjusted in a few seconds and adapted to sizes ranging from $1^1/_2$ lbs. to 25 lbs.

The measuring unit is fed from an overhead feed line. It has four intake gates connected to two sets of four each, adjustable measuring tubes. For the $1^1/_2$-lb. bag, only one of these gates is open; for the 25-lb. (*Continued on page 97*)



Above. Filling units for various adjustable sizes and speeds may be operated from either standing or sitting position. Filled bags are carried a few feet by bottom and side belts to sewing machine. Right. Quickly adjustable, this unit fills salt bags in a wide range of sizes. Machine runs at the rate of 45 bags filled per minute on all sizes except the 25-lb. bags, which are filled at the rate of about 25.

WASHINGTON REVIEW

Summary of current restrictions and limitation orders

● **Scarcity of Materials**—WPB periodically issues a classified list showing relative scarcity of various raw materials: Group I, very scarce; Group II, moderately scarce; and Group III, available in adequate quantity. In the latest list Group III includes fibreboard, paper (except cellophane), paperboard, titanium pigments. Silver is now in Group II.

● **Green Light for Dehydrated Foods**—The U. S. Department of Agriculture has recommended a program for expanding the dehydrated food industry to reap full value from the space and material savings advantages of this method of food processing. First to use the products will be army, navy and lend-lease, though it is expected that retailers will in another 12 months be carrying dehydrated foods to take the place of lines dropped because of materials shortages. Use will be made of the Beechnut Co. plant, where four processing methods are in operation, to present methods of instruction under M. I. T. instructors.

● **Container Coordination Section Formed**—Headed by Albert W. Luhrs, a container coordinating section has been formed within WPB's Division of Purchases. Among the eight duties which this section will perform are the establishment of uniform specifications for containers and packing materials of all kinds and the making of recommendations to the proper branch of WPB to alleviate possible shortage of containers and packing materials.

● **Thermoplastics Order**—Uses of thermoplastics are severely restricted by General Preference Order M-154 issued June 27, under which defense orders must be filled in so far as possible, after which civilian orders in three classes of uses must take their turn. Class I uses, from the packaging viewpoint, include containers and closures of minimum functional weight for products related to health. Class II uses include lipstick holders and Class III uses include containers and closures not otherwise specified. Class IV uses include non-essential items, but there aren't enough plastics to reach very far in the last two classes.

● **Paper and Printing**—Packaging papers are not affected by Limitation Order L-120, which imposes simplification and standardization of writing paper, envelopes, book and ordinary tablet paper.

Inventory restrictions have been temporarily removed from paper, paperboard, paper products, waste paper and ilmenite (source of titanium pigments) to permit building up supplies this summer in anticipation of transportation shortage next fall and winter.

Pyroxylin coatings are increasingly hard to obtain, so publishers are advised to study substitutes.

The Chromium Allocation Order M-18a, originally drawn to expire June 30, has been extended indefinitely.

Nevertheless, restrictions governing chrome for pigments and printing inks have been relaxed by amendment June 29 of Order M-53 which allows manufacturers to use as much as they did in 1941.

● **Tinplate and Terneplate**—M-81 revisions: June 13 order calls for substitution of electrolytic tinplate or chemically treated blackplate wherever possible for packaging various vegetables, fats and other products.

June 22 amendment orders an additional 10 per cent reduction in civilian apricot pack.

June 27 amendment effective at once prohibits use of tinplate or terneplate cans for "special products" as named in the orders, including certain paints, health supplies and chemicals.

July 9 amendment authorized use of cans on hand or in process July 1 for products named in June 27 revisions.

● **Collapsible Tubes**—If retailers sell and send direct to service men, old collapsible tubes need not be turned in by the purchaser of the gift toothpaste or shaving cream. Salvaged tubes, incidentally, go into the Government's metal stock pile.

● **Ethyl Cellulose**—General Preference Order M-175 issued June 18 places ethyl cellulose under complete allocation. Exception is made in cases of deliveries of 50 lb. "by any one person to any one other person in one month."

● **Drum Coatings**—M-158 was amended June 27 to permit drum manufacturers to use up some 150,000 gallons of exterior drum coatings on hand.

● **Iron and Steel Conservation**—The drastic iron and steel order M-126 was amended July 13 by the addition of a long list of articles which are prohibited to use ferrous metals. No other metal or rubber may be used to manufacture any article, production of which is stopped by M-126.

● **Ingredients on Cosmetic Packages**—If a cosmetic has both a drug and a cosmetic value, its labeling should carry the ingredients, according to a recent court decision in the state of California

● **Cosmetics Limitations**—Designed to conserve critical chemicals and packaging materials, Order L-171 restricting cosmetic production was issued July 16. Three lists are appended to the order. List I, unrestricted, includes baby powder, eye wash, shaving preparations, soap shampoo, talcum powder and tooth preparations, with certain provisions on content of critical materials.

List II permits 100 per cent of 1941 quantity and 90 per cent of 1941 "marketable units" and List III restricts production to 80 per cent of 1941 quantity and 72 per cent of 1941 "marketable units"—products on these two lists being those which use relatively large quantities of critical materials. The reduction in "marketable units" will act to increase sizes of units of sale and thereby conserve packaging material. The order also forbids manufacturers to introduce new products not offered for sale in 1941.

● **Closure Problem**—The closure situation is far from settled. Meetings are being held in Washington to iron it out. With ships going to the ocean floor daily, there is no disposition to divert steel from the shipyards. Thus, metal closures will become less and less common. Plastics may take over some of the load, provided orders are changed to permit such uses and to allocate a modest amount of steel for molds. But substitute closures must be developed in greater number. As these appear Modern Packaging will have news.

● **Blackplate**—M-136, issued July 22, follows M-81 in pattern, restricts use of blackplate to two groups of products—mainly those needed in operation of plants and equipment engaged in military or essential civilian activity. Partial permitted list: abrasives, cements and dressings, solder and boiler compounds, liquid glues and adhesives, rubber cements, gasket assembling compounds, dry solvents, disinfectants, sodium silicate, paste soap, benzol, certain types of paints, drying oils, graphites, lubricating greases, etc. Size limitations are imposed by the Order, mostly in the direction of larger units, for example, 10- and 25-lb. for lubricating grease, 3-lb. for paste soap, 5-gal. for sodium silicate. Sizes of containers for printing inks are restricted to 16 only, compared with 222 now used. Resultant savings of steel are estimated at over 1,000,000 tons.

● **Gift Packaging**—William W. Fitzhugh, Chief of the Folding and Set-up Box Section, Containers Branch, WPB, said no restrictions on manufacture of any type paper box are contemplated and that manufacture and use of gift and Christmas boxes are not prohibited.

● **Pulpwood Price Ceilings**—These are likely to be imposed at lower than current market levels, OPA announces, in order to protect existing ceiling prices on newsprint and other papers.

SORRY! He's in Conference

THIS little fellow has gone to lunch with his best friend. Soon he'll be a boy . . . then a man and the head of his own family . . . your best customer. We have to win this war for him and millions like him. That's why batteries of Heekin color presses rush at full speed day and night producing lithographed containers in which needed defense products are packaged. We can produce them for you in huge quantities. We're planning now for the future. In the meantime—Look Ahead. THE HEEKIN CAN CO., CINCINNATI, OHIO.

HEEKIN CANS

Lithographed

WITH HARMONIZED COLORS

U. S. patent digest

This digest includes each month the more important patents which are of interest to those who are concerned with packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at 10 cents each.

HANDY KIT NOVELTY. E. R. Morando, New York, N. Y. U. S. 2,287,530, June 23. Handy kit and novelty device for pocketbooks and pockets containing mirror, lipstick and novelty refillable roll of tissue paper.

RING FOR PACKAGES AND METHOD OF MAKING THE SAME. C. G. Hensley (to T. B. Frost, Baldwin, N. Y.). U. S. 2,284,735, June 2. A ring for application to a plate or support to secure a cover sheet thereto and form a package.

DISPLAY CONTAINER. H. A. Wolf (to L. Wolf, E. Wolf, H. A. Wolf and W. L. Wolf, doing business as Wolf Bros., Philadelphia, Pa.). U. S. 2,285,103, June 2. Display container with pockets extending along side of edges of sheets when folded in position.

BAG SEALER. W. R. Kohl, Glenview, Ill. U. S. 2,285,726, June 9. A bag sealing device consisting of two duplicate members composed of fabric, each member having one side coated with an adhesive.

KNOCKDOWN DISPLAY BOX. S. Lester (to Patchogue-Plymouth Mills Corp., New York, N. Y.). U. S. 2,285,991, June 9. A knock-down display box comprising foldable blank of single sheet of stiff pliable material.

COLLAPSIBLE BOX. W. A. Becker (to Old Dominion Box Co., Lynchburg, Va.). U. S. 2,286,399, June 16. A box blank formed from a rectangular piece of paper creased longitudinally forming a pair of inwardly foldable sidewalls whose combined width is more than the width of the bottom.

CONTAINER. W. V. Roberts (to California Container Corp., Emeryville, Calif.). U. S. 2,286,647, June 16. A package comprising a unitary sheet of flexible material wrapped around merchandise in snug fitting engagement to provide a substantially tubular body with overlapping edges defining a contour whose cross sectional area is determined by said merchandise.

MULTIPLE BOX. H. Paxton (to Food Machinery Corp., San Jose, Calif.). U. S. 2,297,194, June 24. A shipping box comprising a plurality of similar individual box units positioned alongside each other with the bottom and one side of each unit lying against other units.

PAPER SHEET DISPENSING CARTON. W. E. Edmonston (to Riegel Paper Corp., New York, N. Y.). U. S. 2,287,420, June 23. A paper sheet dispensing carton having an opening in one wall through which individual sheets may be withdrawn.

SANITARY FOOD CONTAINER. P. A. Moyers, Fort Collins, Colo. U. S. 2,287,495, June 23. A container of box-like structure having top open with strip of transparent material extending over the upper face of the bottom structure and up the end walls with ends projecting from end walls to form flaps.

CREAM CHEESE BOX OR CARTON. C. L. Guidry (to L. P. Forrester, New Orleans, La.). U. S. 2,287,610, June 23. Receptacle having a rib about it providing an interior groove combining with another receptacle having an outwardly extending upper portion of greater diameter than interior of first receptacle.

COLLAPSIBLE CARTON. F. A. Sunderhauf and F. W. Broderick (to Reynolds Metals Co., Richmond, Va.). U. S. 2,287,648, June 23. A flat, collapsible carton of a one piece die-cut and die-scored blank consisting of a bottom member and a one-piece top member forming the top and sides of carton.

CONTAINER CONSTRUCTION. O. W. Wentz (to U. S. Automatic Box Machinery Co., Boston, Mass.). U. S. 2,288,056, June 30. Paper container made of a single sheet and comprising a four-sided bottom, two opposed sides of which are extended to form opposed end walls.

RECEPTACLE. M. L. Rathbun, Salamanac, N. Y. U. S. 2,288,421, June 30. Receptacle for article of merchandise comprising a base, an element disposed above and adapted at least in part to cover said base, with spring and hinge for covering position.

POULTRY BOX. H. M. Inman, Aberdeen, S. Dak. U. S. 2,288,457, June 30. Chick box with body portion of cardboard or like and longitudinal and transverse partition disposed in the body portion and dividing it into compartments.

CLOSURE FOR CONTAINERS. L. Pernu, Sudbury, Ontario, Canada. U. S. 2,285,227, June 2. Closure for a collapsible container having a neck with tubular body of rubber of diameter to fit tightly upon the neck consisting of discharge orifice and U-shaped wire members yieldably constraining the lips in their closed relation.

TUBE CLOSURE. D. Panayiotou Loomis, Baltimore, Md. U. S. 2,286,916, June 16. In combination with a container, a closure unit comprising a shell body having an exterior contour created on curves described from plural centers and combined together.

CONTAINER TREATING MACHINE. J. M Hothersall and A. E. Almergren (to American Can Co., New York N. Y.). U. S. 2,284,660, June 2. In a machine for treating sealed containers a lifting device for raising container closure elements to uncover filling openings.

METHOD OF MAKING PACKAGES PROVIDED WITH TEARING STRIPS. E. F. Cornock (to Package Machinery Co. Springfield, Mass.). U. S. 2,285,189, June 2. A method of forming a wrapped article having a tearing strip located to remove the folded top of the wrapper while leaving remainder of wrapper in pouch form on article.

PACKAGE SEALING MACHINE. M. H. Corley and J. A. Heckman (to Miller Wrapping & Sealing Machine Co.). U. S. 2,285,253, June 2. In package sealing machine the combination of two groups of sealing devices adapted each to seal the protruding ends of package wrapper.

CARTON LOADING MACHINE. R. A. Jones (to R. A. Jones & Co., Covington, Ky.). U. S. 2,285,293, June 2. In a carton loading machine, a pair of endless conveyors.

PACKAGE WRAPPING MACHINE. J. Silberman, Lima, Ohio. U. S. 2,285,842, June 2. Manually operated machine for folding inwardly ends of a wrapper about ends of rectangular article to be wrapped.

ARTICLE SEALING AND LABELING MACHINE. W. S. Reynolds (to Remington Arms Co., Delaware Corp.). U. S. 2,286,159, June 3. Application of seals with thermoplastic adhesive to an article by heating seals.

BAG CLOSING AND SEALING APPARATUS. H. G. Allen and K. C. Saunders (to Consolidated Machinery Corp., New York, N. Y.). U. S. 2,287,957, June 30. A machine for closing and sealing slack filled paper bags.

It's time for MODERN Air Raid Protection!

WHEN it's open season for flies and mosquitoes, it's "A-penn" season! When squadrons of flying pests are nose-diving . . . or diving at your nose . . . then's the time to put A-penn Fly Spray into action.

A-penn will not only establish mastery of the air for your side . . . but it's as pleasantly perfumed as it is positive in action.

Crown Can supplies the A-penn Oil Company with the containers in which A-penn Fly Spray is packed . . . and they are cans designed to protect the contents as effectively as the contents protect the home from insect pests!

CROWN CAN COMPANY, PHILADELPHIA, PA., *Division of Crown Cork and Seal Company*

CROWN CAN

BALTIMORE • NEW YORK • ST. LOUIS • HOUSTON • MADISON • ORLANDO • FORT WAYNE • NEBRASKA CITY

Equipment and Materials

FIBRE CANS MADE ON TIN LINES

Cans with fibre bodies and ends either of metal or fibre may now be made on machines used for the manufacture of metal containers, according to a recent announcement by American Can Co. After many months of experimentation, this revolutionary development will be made available by American Can to the entire can-making industry. It is said to be one of the most forward steps in solving the problem of many manufacturers of dry products whose merchandise packed in cans has been threatened by wartime restrictions on tin and other metals. Greatest advantage claimed for the new method is that no new machinery is required at a time when no new machinery or tools are obtainable. Also the user of these fibre cans may accommodate them on his existing packaging machinery. This fact is highly important since the packaged goods manufacturer is also affected by priorities in obtaining new machinery.

These new fibre containers may be used for products known in the trade as "dry," such as drugs, cosmetics, spices, tobacco, powders, etc. Because these fibre cans may be made in the same shapes and sizes as metal containers, they will make it possible to maintain the same brand and product identification features of the packages they replace. Thus the merchandising factors that stemmed from the metal containers will be preserved.

Containers with metal ends made by the new method will be available up to the amount of blackplate available for the manufacture of ends. Paper fibre sheets, cut to tin plate sheet size will be run through the tin can lines. These will be lithographed on regular presses formerly used for lithographing designs on tinplate, will then be sheared and formed into bodies. Ends will be seamed with the regular seaming machine now in use. Later issues of Modern Packaging will include more detail on the manufacture of these new containers and how they are used on existing packaging lines.

ALTERNATE FOR METAL BEARING

Bearings made of impregnated wood may be used as an alternate for strategic metal bearings in many instances, according to the Neveroil Bearing Co. This bearing material, which the company calls Woodex, it is claimed will not stand the load, speed and high temperatures that certain metal bearings will, yet will outwear metal when installed in applications for which it was intended. Woodex, the company explained, is not offered as a substitute. It has been used as a bearing material for almost 40 years. It is furnished in the form of bearings and formed-to-size parts and can be machined easily. It has application in many industries.

CONTROL SWITCH

Photoswitch, Inc., introduces an automatic blackout illumination control, called Photoswitch, for store window display, billboards, etc., which permits them to remain in operation in districts where blackout regulations are in effect, the company states. These switches are located on the billboard or in the store window which are to be controlled. They are aligned with the nearest street lamp. When the centrally controlled street lamp is turned out, the switch observes this and turns off the illumination which it is controlling. The switch may be readily installed, the company points out, in any location within 100 ft. of a street lamp.

ALTERNATE METALS

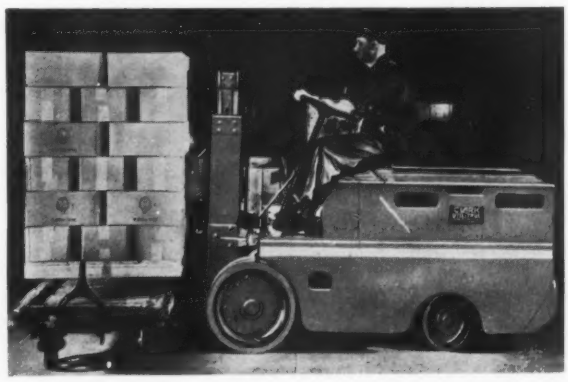
Most branches of the official war machine are encouraging alternate bids on substitute materials whenever the critical situation on the specified material affects the speed of delivery, cost or rate of production. American Nickeloid Co., states that its line includes alternates for the majority of critical metals commonly used. Its copperplated steel, for instance, has been used satisfactorily as an alternate for tinplate, terne plate or solid copper. Its pre-plated metals, the company states, are now being used by the government for certain containers, boxes, etc.

OPEN MESH BAG

The Chase Bag Co. announces an increase in its production of open-mesh Saxolin bags which are serving as substitutes for bags that were made of materials now unavailable or becoming critical. These bags are made of an open-mesh fabric woven from a special yarn spun from tough kraft paper and treated by processes to increase its strength and workability. The material is used for consumer size containers for potatoes, citrus fruits, apples and onions, among other items.

TRUCKS WITH BATTERY POWER

While continuing to supply gas-powered vehicles for handling materials in factories and loading docks, Clark Truck-Tractor Division of Clark Equipment Co. is now making its trucks with full electric equipment for storage battery power where electric operation is best fitted for the job. According to the company, the machines lift from 2,000 to 7,000 lb., are equipped with hydraulic vane-type pump, driven by special series wound motor. The same pump operates tilting unit. The machines have four speeds forward and four in reverse with speeds from 6 miles per hour under full load and 7.5 miles per hour empty. Trucks are said to climb $7\frac{1}{2}$ per cent grades under their maximum loads. Drive is on the front wheels, with rear wheel steer.



Tapping a rubber tree in Malaya. The latex flows along the cut and into the cup. *Courtesy of United States Rubber Company.*

Rubber?

Let's Look Ahead!

MODERN chemistry has already evolved replacements which may *completely supersede rubber.*

NATIONAL'S laboratories have developed adhesives which are successfully doing the work of latex and rubber cement in many industries — thus helping, in a small way, to ease the present shortage. We mention this as typifying what our chemists and research engineers are doing in meeting new problems which are arising almost daily.

The changing picture has undoubtedly affected *your* adhesive requirements in one way or another. If you will tell us the facts, we should be able to be of timely service.

NATIONAL ADHESIVES

DIVISION OF

NATIONAL STARCH PRODUCTS Inc.

820 GREENWICH ST., NEW YORK—CHICAGO—PHILADELPHIA—BOSTON—SAN FRANCISCO—and All Principal Cities

Plants and People

Ralph D. Cole

Sidney P. Voice

Ralph D. Cole was elected president of the Consolidated Lithographing Corp. to succeed the late Jacob A. Voice at a special meeting of the company's board of directors. At the same meeting, Sidney P. Voice was elected chairman of the board of directors; Walter J. Ash, formerly executive vice-president of Consolidated Decalcomania Corp., a member of the board; and Henry A. Voice, first vice-president of the corporation.

Thomas C. Sheffield, Western manager of the New England Collapsible Tube Co., was recently commissioned a Second Lieutenant in the United States Army Air Force. During his absence, Charles E. Arch will be in charge of the company's Chicago office.

Raymond P. Starr has been made manager of the New Orleans district office of the Mundet Cork Corp. Mr. Starr goes to New Orleans from the Atlanta office where he has been manager for four years. Other changes announced in the Mundet sales organization are the appointment of Fred Bading as manager of the company's Houston, Tex., branch and the addition of Harry E. Lancaster to the sales staff to be connected with the Atlanta and Jacksonville offices.

George W. Cobb, Jr., director of advertising of the American Can Co. has been commissioned a Major in the Quartermaster Corps and assigned to immediate field service. Major Cobb, Jr., joined the research staff of the American Can Co. in 1926 and at its laboratories at Maywood, Ill., specialized on canned food technology. During this period, he assisted the Subsistence Laboratory of the Quartermaster Corps in Chicago in redesigning the emergency ration containers and writing the specifications for the use of canned foods in the armed forces. In cooperation with the U. S. Quartermaster Corps, he prepared a textbook, Canned Food Manual, which is now used in all Army camps.

George W. Cobb, Jr.

When the announcement was first made to employees of the New Jersey Machine Corp. regarding employee purchase of War Bonds on the payroll plan advocated by the U. S. Treasury Department, 80 per cent of the entire personnel signed up immediately. The other 20 per cent were not present, but when their shift came on the entire roster was accounted for and all pledged regular contribution to the war fund.

In a move to consolidate its sales forces, the American Can Co. announces that effective July 1, the administration of both Packers Can and General Line Sales, in the territory covered by the Atlantic Division Sales Office, will be through nine District Sales Offices. The former Packers Can District and General Line and Packers Can local office territories will be discontinued and in their place nine new district territories will be established. Under this forthcoming merger, the two selling organizations will be under the direction of one sales manager for the sale of both Packers Can and General Line containers. There will be one exception, the New England District, where the merger will not take place at this time.

The National Industrial Advertisers Assn. announces the election of the following officers for the year 1942–1943: President, Herb V. Mercready, sales promotion manager of Magnus Chemical Co.; vice-presidents, Allen P. Colby, F. L. Lackens, Wilmer H. Cordes, A. H. Neher, Harry Keene, Robert J. Barbour, J. A. M. Galilee, and H. S. Schuler; secretary-treasurer, Arnold J. Andrews.

Now available in published form is the final opinion of Judge Francis G. Caffey in the legal action under the Sherman Anti-Trust Act against the Aluminum Co. of America, et al. The suit—longest legal trial on record—required 26½ months for trial. Testimony of the 155 witnesses filled 40,708 pages with 4,787 more pages required for 1,803 exhibits. The corporate life of the Aluminum Co. of more than 50 years was subjected to thorough probing. Judgment was in favor of the defendants on all counts. Volume published by West Publishing Co.

Paul Bergstrom

Paul Bergstrom of the sales promotion department, Gaylord Container Corp., has been given a leave-of-absence to head up the Packaging and Carloading Section of the St. Louis Ordnance District of the U. S. War Department.

H. L. Bills, director of Industrial Relations of Acme Steel Co., was recently elected vice-president of the Industrial Relations Assn. of Chicago.

Smith L. Rairdon, vice-president and general sales manager of Owens-Illinois Glass Co., announces two changes in the executive personnel of the sales force. William R. House, former assistant sales manager of the Pharmaceutical and Proprietary Container Div., is acting branch manager in Buffalo during the illness of George W. Zingerle. William M. Robertson succeeds Mr. House as assistant sales manager.

The Breskin Publishing Corp.'s flag now has three stars in it. Donald Zern who assisted with the work of the All-America entries and exhibit and the shipments of the Modern Plastics and Modern Packaging Catalogs, has entered the Merchant Marine Cadet Corps.

OBITUARY

Jacob Abraham Voice, president of the Consolidated Lithographing Corp. of Brooklyn, N. Y., was drowned while swimming off Atlantic Beach, L. I., near his home on June 24.

James G. Redner, for 30 years treasurer-manager of the Battle Creek Bread Wrapping Machine Co. and for 13 years treasurer-manager of the Johnson Automatic Sealer Co. of Battle Creek, Mich., died on June 26, at a local hospital.

AN AMERICAN INSTITUTION WORKING WITH AND FOR AMERICA

Afield..Afloat..Aloft

THEY NEED PROTECTED FOOD

. . . likewise do the folks fighting on the homefront in war production plants, factories and shops. In our national all-out effort to use and build instruments of destruction, let's not under-rate the equally grim challenge to supply the materials of preservation, the preservation of "fightin' " health and energy through nourishing food. These Foods-for-Freedom upon which so much depends must be conserved and safeguarded . . . it is imperative that spoilage, shrinkage and contamination be combatted through *protective packaging.* Again we pledge the utmost endeavors of our manpower, materials and machinery to this vital Victory need.

Tolke Beeher

PRESIDENT
RHINELANDER PAPER COMPANY

RHINELANDER
PROTECTIVE PACKAGING
Papers

FROM THE BEST THAT'S MADE TO THE CHEAPEST THAT'S GOOD

Genuine Greaseproof
Laminated Frozen Food Wrappings
Confectionery Papers
Cereal Wrapping Papers

Laminated Greaseproof Papers
Lard and Shortening Liners
Bakery Product Wraps
Coffee Bag Papers

Cracker Box Liners
Greaseproof Innerwraps
Glassine Papers, Plain, Colored and Embossed

Wax Laminated Glassine
Opaque Label & Bag Glassine
Packing Industry Wrappings—and Specialties to order

RHINELANDER PAPER COMPANY • MILLS AT RHINELANDER, WISCONSIN, U. S. A.

For Your Information

U. S. Department of Commerce has issued a 320-page volume, "Trade and Professional Associations of the United States." Purpose is to assist the coordination into the war program of the Nation's 3,000 larger cooperative organizations, who have a gross membership of more than 40,000,000 persons. Basic data are presented on such national groups as trade associations, professional, consumer and farmer organizations, patriotic societies and labor unions. Also included are principal activities of each organization, size of staff, number of members, and certain geographic data. The publication shows there are 1,100 important associations of manufacturers, 400 of wholesalers and retailers and 560 of transportation, finance and other service organizations. Available from the Government Printing Office, Washington.

Relative economies of marketing packaged goods and handling goods in bulk form will be undertaken probably for the first time in a detailed study by a public institution in a project to be conducted by the Whar on School of Finance and Commerce of the University of Pennsylvania. The study, made possible by a grant from the Container Corp. of America, will be conducted by the Marketing Department of the Wharton School with the assistance of other groups of the faculty. The original portion of the study will require one year.

Modern Packaging was proud of an award of honorable mention by the United States Flag Assn. for its July flag cover in the national magazine cover competition in which all magazines devoted their covers to illustration of the American Flag. Photo was by L. L. Perskie, Defender Photo Supply Co.

Lend-Lease shipments to representatives of United Nations totaled more than 5,178,000,000 lbs. of farm products up to June 1, 1942, according to the Department of Agriculture. Leading commodities delivered were: dairy products and eggs; meat, fish and fowl; fruits, vegetables and nuts; grain and cereal products; lards, fats and oils.

Interchemical Corp. recently published a "Manual of Products," which has been distributed to its employees and is available outside the company only to governmental bureaus and other authorized purchasing personnel. The manual was prompted by the company's desire to help meet the need for speed in war production—not only speed of production, but speed in locating companies who can manufacture necessary items. Technical and sales staffs of all divisions and subsidiaries were organized in a coordinated effort to make the company's varied and comprehensive plant equipment available for war work. Products of Interchemical, its divisions and subsidiary companies constitute a great volume of production in the protective and decorative chemical coating industry. Heretofore, the company stated, each subsidiary or division in the corporate set-up confined itself to its own particular field of operations. With the new manual and closer cooperation between all company divisions, every salesman is equipped to tell what each division of Interchemical is doing and what each division can make.

A Packaging Clinic, first of its kind ever held in conjunction with the Advertising Federation of America Convention, gave new evidence of the increasing importance of packaging in a wartime economy. The packaging session held on the second day of the national convention June 21–24 at the Hotel Commodore, New York City, was presided overy by C. B. Larrabee, president, Printers' Ink Publishing Co. Topics dealt with all phases of current problems: keeping brand identities alive in view of changes due to material shortages; copy themes to inform consumers of the reasons for changes; advertising, merchandising and sales problems created by a dislocated economy. Ray M. Schmitz, vice-president and merchandising manager, General Foods Sales Co., covered the subject of adapting advertising and merchandizing programs to changed packages. C. W. Browne, editor of Modern Packaging, spoke on "Keeping Individuality in Packaging Alive." George R. Frederick, vice-president of Loft Candy Corp., outlined his company's program of building employee morale and regaining old markets by the use of packages. (Described elsewhere in this issue.)

The Spice Mill has announced its sixth annual packaging show. Entries will be limited to coffee, tea, spices, condiments, flavorings or related packaged products. Classifications include bags, cans, cartons, glass, shipping and display cartons. Packages must be entered before August 15.

"The Story of Printing Inks," recently published by General Printing Ink Corp., answers many questions on the history of printing inks and is available on request to the company. Eagle Printing Ink Co., a division of General Printing Ink, has issued another study in its series on color, called "Color Acceptance—Its Normal Demands and Wartime Limitations."

The Technical Assn. of the Pulp and Paper Industry will hold its annual fall meeting at the Statler Hotel, Boston, September 29 to October 1, 1942. Discussions will deal with such subjects as reports on government activities, new developments in packaging and wraps, protective coatings, tub sizing trends, war needs for paper and pulp, personnel problems and others.

National Industrial Chemical Conference and Exposition to be held November 24 to 29, the Sherman Hotel, Chicago, will stress the importance of pure and applied chemistry in the solution of many wartime problems. More than 20,000 identified with all phases of chemical industry are expected to attend. Prospective exhibitors are requested to communicate with Marcus W. Hinson, National Chemical Exposition, 110 No. Franklin St. Chicago.

Milprint, Inc., has issued a brochure entitled "Milprint Victory Packaging." It demonstrates the direct tie-in with the war effort and provides suggestions and information in connection with replacement packages. It is a very complete résumé of the place of packaging in the war effort. The book shows what Milprint is doing, can do and hopes to do in the field of functional packaging both military and essential civilian.

The Patriotic Label Co., a non-profit organization, has been formed with Sidney Hollaender, president of Ever Ready Label Corp., as its head, for the purpose of putting patriotic slogans and illustrations on 500,000,000 labels within the next few months. The campaign has the endorsement of Donald Nelson and all label producers in America are invited to help in this effort.

National Consumer-Retailer Council has issued two leaflets telling consumers and retailers the necessity of taking an informed attitude toward substitute and successor materials, according to Roger Wolcott, executive secretary. The leaflets have been sent to consumer leaders and prominent retailers in 60 principal cities.

"KNOW HOW".... for NOW!

Because of a comprehensive and long-established laboratory-control plan in operation in our Closure Division, three effectual contributions are now being made in meeting the packaging "pinch" arising from America's total war effort:

One: The utmost possible care is being taken to assure a strict maintenance of CCS *quality* in every type of closure being manufactured.

Two: The combined efforts of our technologists, metallurgists and engineering-designers are busily engaged in developing satisfactory materials to replace those appropriated by war.

Three: The skill and experience of our entire research organization is at your disposal in finding efficient and economical answers to particularly vexatious sealing problems.

Two additional ways in which you can cooperate in furthering these efforts in your behalf: *By using only the smallest closures practical for your purpose. By adopting liners and coatings which do not contain materials essential to war production.*

CROWN CORK AND SEAL COMPANY

World's Largest Makers of Closures for Glass Containers

BALTIMORE, MD.

For the last word in closures . . .

COME TO CROWN FIRST!

CROWN'S WARTIME POLICY: *To supply closures, containers and services for packaging foods, beverages, chemicals, etc., needed by civilians and the armed forces. To build an ever-increasing volume of vitally needed weapons of war for our fighting men.*

Less than meets the eye

(*Continued from page 49*) with common sense economies.

Highly competitive markets, of course, have their advantages and their disadvantages. On the one hand, competition creates better products and better packaging; on the other, it often breeds questionable practices and bad packaging. Manufacturers of all types of packaged food and other goods must give their products every chance to survive and grow in volume of consumer acceptance or the manufacturers must go out of business. One baker, for example, may put out his crackers in a 12-oz. container and a second baker who has a similar, but perhaps more expensive cracker, wants to enter his crackers in competition with the first. To do this, he may pack 10 oz. of crackers in a container that would hold 12 oz. The two packages are the same size and the consumer, who probably is used to purchasing a certain size package rather than so many ounces, will be more surely encouraged to buy the product of the second baker.

In other instances, companies have groups of similar products such as spices, seeds, breakfast foods, etc., and want to keep a uniform family size and price. Consequently, some packages have more slack than others since some of the products in the family are more costly than others. Loose foods such as crackers, gelatin, cereals, etc., soap powders and flakes and the like are not the only products which are sometimes given Mother Hubbard costumes—conspicuously voluminous. Bottles, collapsible tubes, jars and tins are frequently placed in containers that are far too large for them. In such cases, the allowance for settling down of the product cannot be plead. The cartons are just a bad fit. Some shoe polishes in bottles have been cartoned with from 20 to 40 per cent waste space; furniture polish, from 20 to 50 per cent; shaving cream, toothpaste and tubes of cement in containers a third to a half too large for them. In connection with the use of oversize containers of this type, often scarcity of some products together with rising prices have forced some firms to reduce the quantity of product sold at a given price. A large supply of old containers must be used up and as a result little brother products appear incongruously in big brother clothes.

Tin is extremely critical and its uses are strictly limited by Conservation Order M-81, with the possibility that the order will be amended in September or October, at which time further curtailments may be listed. Cans and tin containers which represent an extravagant use of tin stand out like enemy sentinels. A spool of adhesive tape occupying only the small center portion of a flat tin container, a can of cleanser with a shaker top filled only two-thirds of the way, a pound size tin of peanut brittle with key wind that holds only 10 oz. of candy—these certainly are not now patriotic packages.

False bottoms, tops and ends in boxes, cans, bottles or other containers are seldom functional. The same criticism applies to containers whose walls are too thick and whose sides are deeply panelled. Bottles which for no reason at all except to make a small bottle look tall have giraffe-like necks; jars with wide, awkward bulges on the sides appear large, but hold little product. Such containers are tricky and are false packaging.

The Japanese, Americans learned to their sorrow a number of years ago, are past masters in the art of false packaging. Americans learned later about a number of other tricks the Japs had up their sleeves. The United States used to be one of the principal markets for Japanese toothpicks and quantities of "Conqueror Brand" toothpicks were purchased. The port to which the majority of shipments was sent was naturally San Francisco. It was quite some time before the Americans discovered they were paying an immoderately high price for tooth picks. The Dept. of Weights and Measures in San Francisco examined a shipment of the picks and found that the fairly large carton had a cleverly concealed false bottom that took up three-fifths of the space. Needless to say, no more "Conqueror Brand" toothpicks from Japan came into the port of San Francisco.

Unfortunately, there are some made-in-America products whose makers work upon the theory that the consumer is more inclined to buy anything because of its size. So a false bottom goes into a 5-oz. tin for 3 and $^3/_4$ oz. of wax polish or a false bottom in a box for stationery takes up so much room that only 5 per cent of the capacity of the box is left for the stationery. A bottle of horseradish has walls so thick and sides so deeply panelled that what appears to be a 4-oz. bottle really holds only $2^1/_2$ oz. A container that looks like a brown jug appears filled with nut meats until the false top is removed and it is up-ended to reveal a deeply recessed bottom. Clear, round bottles of digestive tablets may have opaque glass ends and large quantities of cotton wadding in the bottom and under the screw cap. Some vitamin capsules in rows along a rectangular piece of cardboard fill only about $^3/_4$ of the available space because of false ends. The capacity of freight cars, is usually 50 tons or more. Because of over-size containers one firm finds that the freight car capacity of the shipment for one of its products is only 15 tons. Actually then a freight car goes across the continent filled to only 30 per cent capacity, thus wasting transportation facilities that are at a tremendous premium at this time.

Out of tin into paper

(*Continued from page 59*) with an ice pick, nail or can opener point, like the sifter top used in packaging cleanser.

Glidden executives would be glad to receive some expert suggestions on how to meet the problem of substitute salad oil containers. Plain, standard gallon jugs are indicated, to replace tin cans, but that brings up new problems of bootlegging. An unscrupulous producer of a cheaper and inferior product could easily refill a gallon jug, which is as standardized as the milk bottle. Furthermore, the War Production Board frowns on the making of any new molds to produce a new style, specialized glass jug to identify a special product. Metal and skilled labor are too scarce. So, Glidden executives have something special to think about, along the lines of packaging the household oils so popular with American families having a background of southern Europe. The gallon jug may have to be used, after all.

Glidden laboratories are conducting packaging experiments with various kinds of light-weight glass. Top openings are being made as small as possible, to conserve metal in the tops, and the all-paper screw-tops also are being tested.

As for paints, varnishes and lacquers, wood containers seem to be indicated for the five-gallon and barrel sizes. Quarts and pints probably will be packaged in light glass or specially treated, non-absorbent paperboard buckets. These paper paint cans would have black plate metal tops and bases and some kind of parchment paper lining. The Glidden organization seems to be accepting war material restrictions as a challenge to individual effort and ingenuity. This company pioneered the use of terne plate for paint cans—85 per cent lead and 15 per cent tin applied to steel sheets—and the day of the pioneer, industrially speaking, is only beginning.

Science gains in search

(Continued from page 41) for protection of the fragile contents; the operations on the packaging line were greatly simplified; the new packages effected an enormous conservation in shipping space.

One of the large oil companies since packaging shortages first loomed has been carrying on a considerable volume of experimental work to develop substitute containers, but so far, they said, were not in a position to report any entirely satisfactory results. Fibreboard and fir stave containers for petroleum products are only fairly successful. Rapid changes in the availability of certain materials complicate any program of package development and their experience is no exception. They have discovered that a package fabricated of eight-ply fibreboard with a light steel top and bottom, when properly water-proofed is satisfactory for lower penetration products in the 55- and 42-gallon sizes. The same type of container in the 108-lb. size has proved fairly successful in test shipments of greases and gear lubricants, though it requires extreme care in handling and shipping. Properly waterproofed, smaller containers of this type can be used for shipping greases.

Packaging research marches on. In the independent testing laboratories, in the laboratories of the large commercial producers of the raw materials of packaging, in the research departments of package fabricators and in the practical experimenting conducted by package users—the same spirit is found. War needs, they all say, must come first and with might and main they are putting that into practice, but they are not neglecting civilian needs. These same laboratories are full of projects and materials that will shortly emerge in the form of solutions for the perplexing problems of today.

New paper coating

As this issue was going to press, word came from the Goodyear Tire & Rubber Co. that they are about to launch a new coating for paper, made from non-critical materials, which has satisfactorily passed laboratory tests. It will have an extremely tenacious heat seal, will be taste proof, odorless, insoluble in water and provide very high moisture protection for food and other products. This coating is applicable to parchment, glazed paper, moisture-proof cellophane, etc. Production runs are nearing completion. Full story will appear in a later issue of Modern Packaging.

Salting it away

(Continued from page 84) bag, all four are used; with varying combinations of gates for the sizes between these extremes. The two sets of measuring tubes revolve in a horizontal plane. While one series is being filled the other series is discharging. Variations in speed of filling are controlled by means of pulleys which permit filling sacks at the rate of 45 per minute on all sizes except the 25-lb., on which a speed of 25 per minute is attained.

Filled bags are carried on conveyor belts to the sewing machines. Speeds are synchronized to enable one operator to maintain a steady flow of filled bags to the second operator who handles the sewing operation. After the bags are sewn, other longer conveyor belts carry the bags to shipping or storage departments.

Credit: Bag filling machines by J. L. Ferguson Co.

Educating the people

(*Continued from page 70*) The Schenley Distillers Corp. has utilized its window-display specialists on behalf of several patriotic drives since the United States entered the war. Largest of the undertakings was the company's co-operation with the U. S. Office of Facts and Figures Flag Day promotion. Schenley purchased 10,000 official store-window displays and the company display men arranged for and installed these exhibits in retail liquor outlets throughout the country. In addition to the special panels, the company distributed 75,000 official posters for showing in the displays.

Shulton, Inc., makers of cosmetics, is using a Victory Fan in connection with its summer promotion campaign. The fan pictures the ten freedoms for which America is fighting, ten reasons for buying United States War Bonds and Stamps. The fan also gives the various ways in which women may adapt their simple, everyday tasks to share in the contribution toward victory. The fan itself is given free with each purchase of Early American Old Spice or Early American Friendship's Garden talcum. As a part of the promotion, Shulton is supplying free to all accounts four different patriotic posters.

The recent window displays of E. R. Squibb & Sons have been largely institutional in nature. The illustrations, paintings done by N. C. Wyeth, Dean Cornwell and other well-known illustrators, have kept pace with the emotional progress of the American people and the text of the displays has emphasized the importance of public health.

Arrow shirts, ties and handkerchiefs have taken their own slogan, "They go together," and created a series of window displays in which the central group is a Minute Man, the Liberty Bell, a tank, airplane and battleship.

By maintaining their identity and keeping before the public their brand names, by gearing their displays to the consumer's desire at this time for direct, concise facts about things, American producers are establishing themselves for the duration and for continued public recognition when peace is restored.

Credit: Posters for National Assn. of Food Chains created by Edward Miller Co. Displays for Arrow by W. L. Stensgaard and Assoc.; for Sealtest by Kindred, MacLean & Co., Inc., and Kay Displays; for Squibb by Kindred, MacLean & Co., Inc.; for Schenley by Window Advertising, Inc.; for Seagram by Plampin Litho Co., Inc.

It pays to advertise

(*Continued from page 54*) After giving this a lot of consideration, Loft came to the conclusion there could be as much demand for candy during the summer months as at any other time, with the exception of the big holidays previously mentioned, providing candy items were made for summer eating. Consequently, the company worked out another sales presentation, again using a photographic booklet and personal message.

Coming along to Father's Day, Loft developed a "Straw Hat" box, made out of paper in which was a photographic booklet entitled "Candy Gifts for Dad," and a personal message built around the theme, "Hats Off to Dad."

These presentations have done a remarkable job in rebuilding employees' interest and stimulating great percentage

increases in sales. They have brought to them a sense of pride that they are a part of this new and changing organization.

Loft is definitely convinced that it "pays to advertise" your own product to your own employees. Once the sales people are thoroughly "sold" on the product they are selling, their natural enthusiasm will be passed on to the customer. One of the most important factors in the success of a retail organization is the loyalty and cooperation you win by instilling in your own employees the thought that new ideas and promotions are created as tools to increase their sales.

In less than one short year, Loft has redesigned all its packages . . . brought out many items . . . convinced its employees that they can be proud to sell Loft candies . . . inspired them with enthusiasm by timely and appropriate promotions made just for them . . . and made consumers conscious of the fact that Loft is really a fine quality candy that will please the most discriminating.

Prunes ready to eat

(*Continued from page 82*) the largest portion of apricots go into green markets and to canners. However, with improved packaging, resulting from the "tenderized" process and use of foil, more and more of the apricot crop is going into the dried form.

All packaging operations, from lining the cartons to attaching foil wrappers, are automatic, with the one exception of filling, which is a hand operation. Each carton is quadruple wrapped, first with a waxed paper wrapper, next with carton shell and then with foil backing, to which the foil sheet is glued, resulting in an airtight wrap. All of these operations are performed in a continuous line, in compact space and under the most sanitary conditions.

The final process in packaging, that of applying foil wrappers in the tight-wrapping machine, is an interesting one, having been developed and perfected to meet highly exacting requirements. For instance, the sheets of foil wrappers are pre-heated to room temperature before piling them in the tight-wrapping machine. They are then flexible and, therefore, mechanically suitable to run through the machine at a fair rate of speed. In addition to insuring a consistent, tight wrap for each package, this operation also eliminates curling of the foil after application to the carton. As a further step to eliminate curling, the packing plant, after experimenting with various grades of glues, finally standardized on a vegetable substance which would adhere with just the correct degree of consistency.

As the foil-wrapped cartons leave the line they are stamped with a code number which designates the date of packing and the packing line. A mechanical attachment, synchronized with the tight-wrapping operation, one developed by the association's engineers, places the code mark at the top of the panel on the right-hand side of the carton.

The final operation, that of casing the foil-wrapped cartons, involves several important steps. When the foil-covered cartons of prunes, dried apricots and other dried fruit products emerge from the packaging line, they are placed in shipping cases which are automatically sealed. But, because of the high temperature processing and packaging, it is necessary to cool the cases under controlled conditions before they are ready for shipping to distributors.

Credit: Packaging equipment by Pneumatic Scale Corp. Case sealers by Standard-Knapp Corp. Foil by Reynolds Metals Co. Adhesives by National Starch Products, Inc., and Arabol Mfg. Co

Dehydrated food

(Continued from page 57) While they cannot put on any extensive promotional drives directed at consumers, with the exception of some soup packers, the majority of the dehydrators are experimenting in a few local markets with unit packages. The influx of large food processors is the best indication of the part this newly perfected method will play in after-the-war food processing. Once dehydrators are able to achieve volume, their processing cost will drop near that of canners, since they will not have to use metal packages. The difference in weight and bulk will make an increased saving in shipping costs which will enable the dehydrator to compete with the canner for consumer markets. Greatest deterrent to acceptance until recently was the taste of dehydrated foods and the fact that much nutritive and vitamin content was lost because dehydrators lacked technical knowledge of the dehydrating process. Increased technical experience has helped processors to overcome these problems. The industry appears well on its way to achieving products acceptable to the average consumer, especially when price is considered. There is doubt that even in government contracts there will be enough tin to go around, and some forward-looking packaging manufacturers and dehydrators are anticipating this shortage with new developments. These line up more or less as follows: the moisture-proof cellophane bag in a carton, the laminated fibre can or drum and the waxed dipped carton, utilizing synthetic waxes. These types of packages are for the larger size units. One manufacturer has a carton and bag arrangement which will hold 30 lbs. of dehydrated food, for instance.

Most package research by individual companies seems to be devoted to consumer packages for after the war. Most dehydrators, even though very busy on government work, are not allowing grass to grow under their feet with regard to consumers' markets.

Probably, for the consumer, the small bulk of most dehydrated products will require some sort of laminated bag or carton dipped or laminated. One packager has recently brought out a line of unit vegetable and fruit packs in cellophane laminated fibre cans.

One large dehydrating organization is set up as follows: Plants operating in Plymouth, Mass.—cranberries; Lyndonville, N. Y.—apples, onions, corn, grapes, black bean soup; Havre De Grace, Md.—tomatoes, corn, peas, pumpkins and squash, corn and tomato soups; McAllen, Texas—cabbage, carrots, beans, onions, tomatoes, etc.; Brazil and Ecuador—bananas. This firm is not typical of the industry in its wide variety of products. Most firms tend to specialize in one or two because of the technical variations from one to the other. Dehydrated foods will probably not disappear from the American diet after World War II as they did after World War I. In 1918 the government was left with several million pounds of dehydrated foods which could not be sold or even given away. The reason was that they had neither taste nor nourishment. The dehydrating process of 25 years ago was simply inadequate to do the job. Today, the story is different. Some dehydrated foods have already gained wide consumer acceptance, mainly in the soup field.

In a country which will be paying for the most expensive war in history, the decreased cost of dehydrated foods of all types will play a big part in their acceptance in the future.

Credit: Cinch applesauce bags by The Dobeckmum Co. Potato and cranberry cans by Continental Can Co. Egg cartons by Waldorf Paper Products Co. and The Interstate Folding Box Co.

Silver linings

(*Continued from page 64*) The manufacturers of cola drinks who have been using non-returnable containers, lined with tin or lacquer for their syrup concentrates, are contemplating a returnable container with long life, lined with silver for adequate protection against the very active concentrate.

Other specialized applications for which silver is being viewed favorably include plating collapsible lead and plastic tubes for antiseptic materials, lining cans for condensed or evaporated milk and silver-coated paper.

An impressive amount of experimental and exploratory work has been done by the Silver Producers' Research Project. The conclusions drawn from their results are: (1) Pore-free deposits of silver 0.001 in. thick on deep-drawing steel are readily obtainable. (2) On a suitable base metal such as electroplated copper, pore-free silver deposits as thin as 0.0001 in. can be produced. (3) Either copper or nickel undercoats 0.001 in. thick are suitable foundations for thin pore-free silver deposits, but for equivalent thicknesses, the copper undercoat offers a greater margin of safety. If absolute assurance of freedom from porosity is essential, undercoats of this nature should be not less than 0.002 in. thick. (4) Deep-drawing steel electroplated with ductile deposits of copper, nickel or silver or any combination of these three metals, can be subjected to severe plastic deformation, cold rolling, press forming and heating operations, without perforating initially pore-free deposits that have a total thickness of at least 0.002 in. A copper undercoat at least 0.001 in. thick is recommended. For those forming operations in which heating is involved, the copper undercoat should be separated from the silver deposit by a nickel deposit, or else the steel should be given a nickel strike; for example, from Wood's nickel bath, before depositing the silver. The methods described are applicable to the production of silver-coated steel in large sheets. (5) The minimum thickness of deposit of silver, nickel or copper that is required for pore-free coatings is dependent—other factors constant—on surface quality of basis metal.

The production of thin pore-free deposits of silver requires: (a) The selection of a basis metal of relatively smooth surface, free from pits, scales, scratches and excessive amounts of solid non-metallic inclusions. Alternatively, a pore-free electroplate may need to be of substantial thickness if the basis metal is relatively imperfect. In that case, the basis metal may be coated with copper, upon which a thin pore-free coating of silver may, in turn, be deposited. (b) Scrupulous care in maintaining plating solutions substantially free from suspended matter. If these two requirements are met, conventional plating procedure can be used to deposit, on a polished electrolytic copper surface, a silver coating as light as 0.00001 in. (0.00025 mm.) thick that is free from porosity. (6) Silver plated steel and objects fabricated from it may be joined or assembled by the use of low-temperature silver brazing alloys and induction heating without recourse to a protective atmosphere. (7) It is practicable to manufacture relatively low-cost, silver-lined containers.

"Silver for Plant Use" by A. J. Dornblatt, Chemical and Metallurgical Engineering, November 1938, contains a list indicating the action of a number of corroding agents on silver. "Silver Offers Resistance to Many Chemicals" by Allison Butts and John Giacobbe, Chemical and Metallurgical Engineering, December 1941, pp. 76–79, supplements the data in the Dornblatt table.

Acknowledgment for material is made to Silver Producers' Research Project, operating under the management of Handy and Harman.

CLASSIFIED

WANTED

SMYTHE VW 32 CHAMPION
BAG or ENVELOPE MACHINE

Must be in good condition.

Send full particulars, stating where machine can be inspected.

Reply Box No. 158,
Modern Packaging

WANTED: Sales executive; experienced in manufacturing, handling phone contacts, supervision of sales details. Send complete information. Reply Box 159, Modern Packaging.

This Space Will Henceforth Be Devoted to Classified Advertisements.

Classified advertisements may be inserted at the nominal rate. $5.00 per inch. Minimum space—1 inch.

ADVERTISEMENTS Will Be Restricted to Those of a Helpful Nature.

Positions Wanted, Help Wanted, Lines Wanted are typical categories.

Address: **Classified Advertisements**
MODERN PACKAGING MAGAZINE
122 East 42nd Street - New York City

INDEX TO ADVERTISEMENTS

MODERN PACKAGING
BRESKIN PUBLISHING CORPORATION
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There's no Shortage of

Packaging Headaches

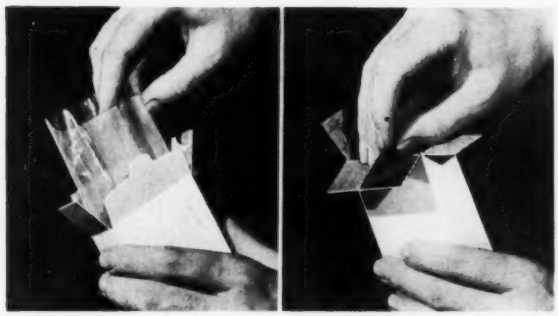
Ban on foil—curb on tin—shortages and priorities on many packaging materials. Of course they're giving you headaches, but cheer up, cartons may be the answer to your packaging problems.

Cartons pack snugly—conserve weight and space. They can be coated, laminated or combined with moisture-resistant, grease-proof and gas-repellent materials. Cartons will retain the identification and appeal of your present sales package. And best of all, there's an abundance of carton board to replace critical materials!

The tempo and complexity of today's packaging needs defy cut and dried procedure. Conversion calls for ideas. Our specialists are constantly at work on new packaging techniques. Their knowledge of constructions, board characteristics and merchandising *plus* good old American ingenuity has licked many a tough problem.

What's your headache? Together we'll solve it.

Carton board is a versatile packaging material. Hundreds of variations in carton style and construction are already available. New ones are developing daily.



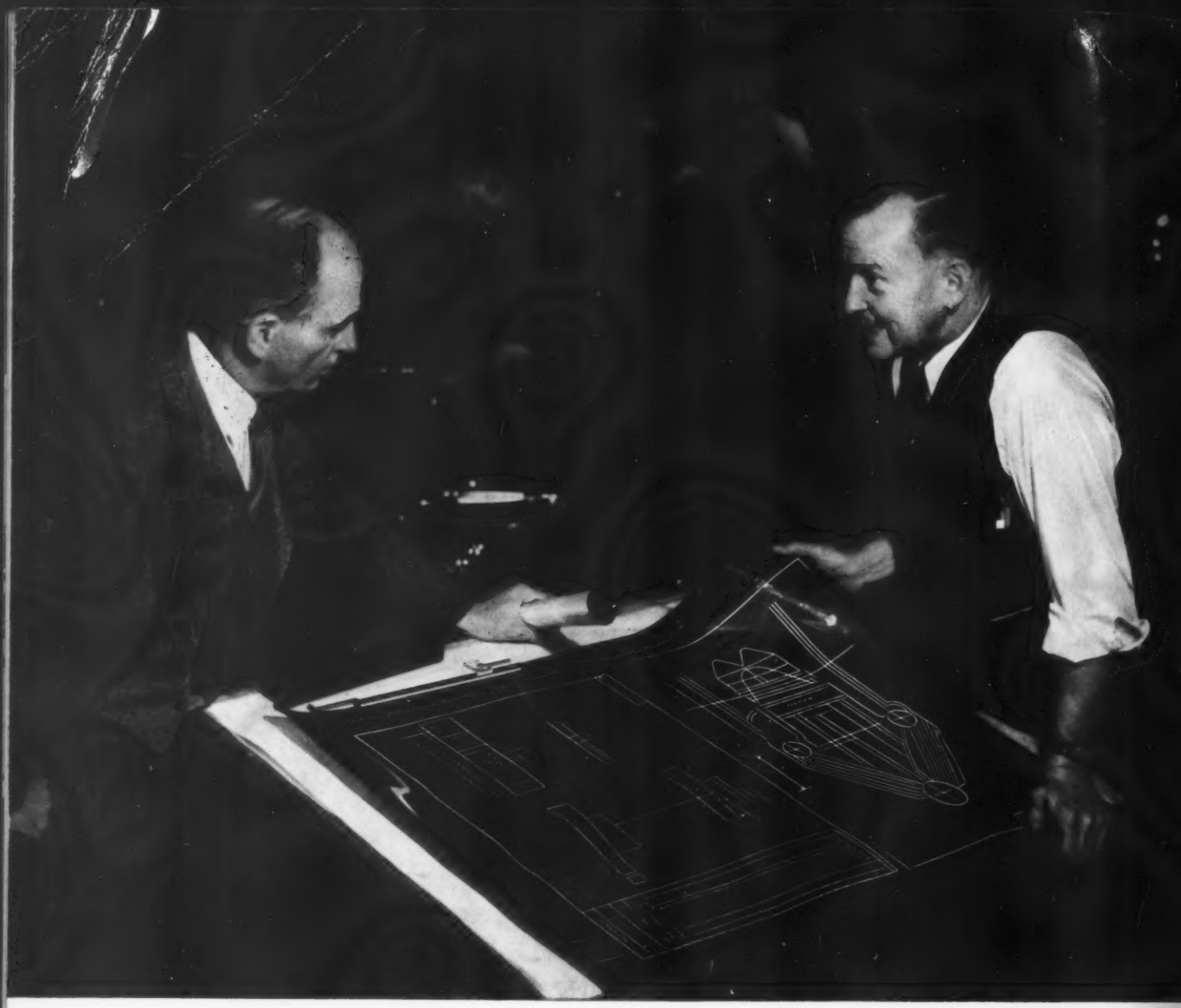
Cartons fill the bill for packages made of critical materials. The "bag-in-box," laminated cartons, or combination of both successfully protect many new products and others formerly packed in tin.

NEW PACKAGE? SPECIFY

Michigan Cartons

Manufacturers of Boxboard and Folding Cartons

MICHIGAN CARTON CO., Battle Creek, Mich.



A PROTECTIVE "PACKAGE" FOR OUR VICTORY PLANS

ETHOCEL* SHEETING, well known for its outstanding qualities as a packaging material, is now performing a new and even more useful service—protecting our plans for Victory. Vital wartime blueprints and shop orders are being enclosed in transparent Protectors or "packages" made of ETHOCEL SHEETING, as illustrated in the picture above.

These tough, durable enclosures protect valuable papers and records from grease and smudge—keep them clean and unmarred. No time is lost because of illegibility, and production is stepped-up along the line.

ETHOCEL SHEETING is specified for this important application because it stands up under the constant punishment of shop action.

It is made of Dow Ethylcellulose, the toughest cellulose material commercially available and possesses unique properties which make it ideal wherever service requirements are unusually severe. It does not warp or crack; does not become brittle with age. Even changes in climatic conditions do not adversely affect this versatile plastic.

EASILY FABRICATED FOR MANY PRODUCTS

ETHOCEL SHEETING is ideal for many wartime products. It is readily fabricated by cementing, sewing, stapling, or riveting—is easily heat formed—and printed. For complete information, write to the Plastics Sales Division today.

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